1986-87
ANNUAL
REPORT

# ANIMAL INDUSTRY DIVISION

Alberta
AGRICULTURE

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# ANNUAL REPORT

## ANIMAL INDUSTRY DIVISION

## ALBERTA AGRICULTURE

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P. Lilley, Supervisor, Banking
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A total of 61 staff were employed under this program as at March 31, 1987.

## ANIMAL INDUSTRY DIVISION

In 1986-87, the Animal Industry Division was comprised of seven branches with the addition of the former Dairy Division's two branches. The seven branches were: beef cattle and sheep, dairy production, dairy processing, horse industry, pork industry, poultry, and regulatory services and feeder associations.

The Division was also responsible for the administration of two special programs to assist the livestock industry. Alberta signed an agreement with the federal government for a National Tripartite Stabilization Program for Red Meat early in 1986. The Alberta Feed Grain Market Adjustment Program continued to pay $21.00 per tonne on feed grain fed to livestock to offset the Crow rate distortion.

The Division's activities included extending technical information to producers and agribusiness, assisting in solving problems in production and liaison with other segments of government to improve service to producers. A number of acts and regulations were administered and amendments made in concert with industry changes and needs.

The two dairy branches provided inspection, consultation and co-ordination of services to Alberta dairy producers and processors. The industry was encouraged to produce and manufacture an increasingly large selection of dairy products of high quality. Alberta dairy products are increasing market penetration throughout western Canada, into Ontario and even Japan.

A University of Alberta study to determine the impact on Alberta's dairy industry of a multi-component testing procedure for basis of payment to producers was supported. At the present time, the only milk component tested for basis of payment purposes is milk fat.

# BEEF CATTLE AND SHEEP BRANCH

## I. INDUSTRY OVERVIEW

### A. Beef Cattle

1986 saw a halt to the liquidation beef herd which has continued, with only a brief pause in 1980, since 1976. The number of beef cows and breeding heifers in Alberta at January 1, 1987 totalled 1.275 million, up 1% from the same date in 1986. The increase in breeding females was due to a 5% increase in heifers kept for breeding. The January 1, 1987 beef breeding herd was down 30% from the peak numbers of 1976.

A number of factors contributed to the change. 1986 saw ideal growing conditions in most of the province following two years of widespread drought which forced herd reductions. Feed gain prices in late 1986 were reduced by as much as 40% from the previous year while prices for slaughter steers in the last four months of the year advanced to the range of $79.00 to $82.00 per cwt.

The combination of low feed costs and the prospect of increasing finished cattle prices encouraged cattle feeders to bid very aggressively for feeder cattle and calves. By mid August top 500-600 lb feeder calf prices had advanced to over $100.00 per cwt and before the end of the year prices ranged from $100.00 to $115.00. By March 1987, prices up to $121.00 were reported for the 500-600 lb calves while lighter calves were reported selling over $130.00 per cwt.

While the 1986 weighted annual average price for slaughter steers sold direct to Alberta packers was $75.52 per cwt compared to $75.58 in 1985, the advancing prices in the second half of the year triggered a renewed optimism in the beef industry which in turn prompted the retention of replacement heifers to begin a rebuilding phase in the beef cycle.

The Alberta feed grain market adjustment program was continued through 1986 and contributed to the low feeding costs and attractive feeder cattle prices. In the first quarter of 1987, it was announced that after June 1987 the market adjustment would be reduced from $21.00 to $13.00 per tonne on grains fed to livestock in the province.

B. Sheep

Canadian sheep numbers have continued to decline through 1986. Total sheep and lambs at January 1, 1987 were 498,800 down 2.4% from the numbers reported a year earlier. In contrast, Alberta sheep and lamb numbers at January 1, 1987 were 124,000, no change from the previous year.

While average slaughter lamb prices in Alberta ranged from $81.00 - 83.00 per cwt in 1986 compared $82.00 - $85.00 in 1985, the lower cost of feeding made lamb production much more attractive and contributed to a strong demand for breeding stock in the last half of the year.

There is a continuing concern with the increasing imports of fresh and chilled lamb from New Zealand and Australia. 1986 imports from these sources were 1.948 million pounds compared with

0.297 million pounds in 1984 and 0.963 million pounds in 1985. Total imports of processed lamb and mutton increased by 52% from 22.5 million pounds in 1985 to 34.2 million pounds in 1986. The third quarter imports increased by 114% over the same period in 1985 with the largest increase (422%) coming from Australia. The industry is studying the case for requesting a countervailing duty against imports of Oceanic lamb.

C. Nutrition

In 1986-87 weather conditions had a considerable impact on the Alberta livestock industry, with the weather taking some drastic turns during the year in a combination of floods, blizzards and drought during the 1986 growing season. Most of the province, coming through a wetter and warmer than normal March, experienced dry conditions in April, especially regions south of Edmonton. A major blizzard in mid-May in the Red Deer, Three Hills and Strathmore area raised considerable concern regarding forage crops. Moreover, except for the Peace region and southwestern districts, rains throughout late June and July reversed this concern in much of the province and the amount of forage produced was more than adequate. The wetter than normal conditions earlier in summer and early fall did, however, reduce forage quality as a result of a combination of late harvesting and weathering of hay in the swath. This generated increased producer interest in the use of forage preservatives as a method of reducing nutrient loss.

Above normal grain harvests and abundant feed grade grain supplies coupled with lower grain prices made marketing grain through livestock very attractive to producers. Alberta Feed Grain Market Adjustment Program continued, in its second year, to provide benefits to livestock industry and encouraged many producers to utilize more grain in their feeding programs. This has led to maintenance and expansion of livestock herds in the province.

Except for a very cold period early in November, when feed requirements increased significantly, winter was mild and feeding problems for beef producers were very few. Feeding problems encountered were largely those relating to the usual factors of general under feeding and nutrient imbalances typical of other years. Cows came through the winter in good condition and gains on feeder cattle permitted marketing them one month earlier. More cases than usual were reported on incidents of weak calves and calf scour problems during calving season in spring.

The dairy and swine industries experienced the normal problems in the areas of production and reproduction. The availability of low cost feed grains also had beneficial impact on these segments of the livestock industry. Poultry continues to be well served by the feed industry.

The involvement of nutritionists with goat producers has broadened. The demand for developing feeding programs has increased considerably in addition to providing basic nutrition information. We continue to receive inquiries about fur-bearing animals and feral ruminants.

## II. PROGRAMS

### A. Drought Assistance Programs

The administration of the Canada-Alberta livestock drought assistance program, which was jointly funded by the federal and provincial governments, was completed in 1986-87. A total of $17 million was paid to producers in addition to the $42.1 million reported for the initial part of the program last year. The Alberta livestock assistance program was also completed. A total of $21.3 million was paid to producers in addition to the $49 million reported last year.

### B. Semen Evaluation Lab

The major purpose of this lab is to assist industry evaluate the quality of semen being produced for artificial insemination.

The lab handled 695 samples of semen from various species during the fiscal year (Table 1).

Table 1

Number of Semen Samples Evaluated

| Species | 1986-87 | 1985-86 | 1984-85 |
|---|---|---|---|
| Cattle | 681 | 818 | 900 |
| Deer | - | - | - |
| Dogs | - | - | 1 |
| Foxes | - | 6 | - |
| Sheep | 3 | - | 1 |
| Swine | 11 | 33 | 15 |
| Turkeys | - | 38 | - |
| Yak | - | 1 | 5 |
| Totals | 695 | 900 | 922 |

The semen lab evaluated 23% fewer samples in 1986-87 than in the previous year. A goodly portion of the samples submitted come from Alberta semen producing stations. Most of the reduction in samples was from sources other than the bull studs (133).

Four samples evaluated were from a research project in cattle breeding. Of the 691 regular samples submitted, 345 were from males suspected of producing inferior quality semen or were suspected of having been improperly stored. 82% of these samples were judged inferior. The remaining 346 samples were submitted for routine monitoring. 57% of these did not meet the standards prescribed by Alberta Agriculture.

The sources of cattle semen received by the lab and the number judged substandard are listed below (Table 2).

Table 2

| Source of Semen | Number of Samples | | | Number Substandard | | |
|---|---|---|---|---|---|---|
| | 1986/87 | 1985/86 | 1984/85 | 1986/87 | 1985/86 | 1984/85 |
| A.I. Studs | 644 | 715 | 842 | 442 | 459 | 444 |
| Inseminating Businesses | 15 | 25 | 15 | 9 | 22 | 9 |
| Private Breeders | 4 | 40 | 35 | 3 | 30 | 25 |
| Alberta Agriculture | 1 | 25 | 1 | 1 | 18 | - |
| Embryo Transfer Businesses | 1 | 3 | - | 1 | 3 | - |
| Veterinarians | 12 | 10 | 6 | 10 | 10 | 6 |
| Total | 677 | 817 | 900 | 466 | 542 | 484 |

In addition to the routine activities listed above the lab personnel were involved in related extension and research activities.

C. Artificial Insemination

The Animal Breeding Section is responsible for administration of the Artificial Insemination of Domestic Animals Act and its related regulations. During 1986, the following licenses were issued: Semen Producing Businesses - 1 Swine, 3 Cattle; Inseminating Businesses - 47; Artificial Inseminating Technicians - 107. These numbers are largely unchanged from last year.

D. A.I. Data Program

This program pays $1.00 for the return of a full record of each insemination performed by a licenced A.I. technician. The purpose is to provide a data base of information respecting the insemination of cattle. During 1986, 19,616 records were returned. Of these, only 12,500 were processed during the fiscal year due to processing problems and a complete rewrite of the computer program. With the speed achieved since processing has resumed, it is expected that record processing will be caught up early in the 1987-88 fiscal year.

E. Federal-Provincial Beef ROP Program

As of March 31, 1987, 143 herds have submitted data on 9085 calves born in 1986. While this is about 30 fewer herds than were processed in the previous year, the number of calves for which records were processed remained the same as in 1985. The program has operated fairly smoothly over the year and producers have generally indicated satisfaction with the service they have received.

The section was represented at the Federal-Provincial Beef ROP Advisory Committee in 1986. This Canada-wide group meets annually to discuss concerns common to ROP. The major topic in 1986 was the return of record processing to the provinces and the funding for computer hardware, processing and development of a program to be used by the provinces. Negotiations are underway to complete this transfer.

F. ROP Weight Supervision Program

This program provides for technicians to supervise the scales and the weights taken for beef home performance test programs in the province. About 27,000 head of cattle were weighed at a cost of $32,500. Sixteen counties or municipalities took advantage of this program.

More cattle were weighed under this program than were enrolled on the Federal-Provincial ROP program. There is no requirement that the records must be submitted to the Government program because similar programs are offered by 4 breed associations and an increasing number of producers are using private ROP programs on home micro-computers.

G. Bull Test Stations

Alberta breeders again demonstrated an increasing interest in evaluating beef bulls through the format of "central test stations". At least 31 groups organized tests at various locations around the province and tested roughly 3400 bulls. This is an increase of 17% over the previous year. All stations receive some assistance or direction from Department staff in the form of advice on testing procedures, weight supervision, calculation of results and/or distribution of reports.

The Branch operated the Ellerslie Bull Test Station where 200 bulls were tested. Demand was high to test at the station in 1986 and over 125 entries were turned away due to lack of space. A large crowd attended the end of test sale and purchased the 62 bulls offered at an average price of $1795.

H. The Alberta Beef Cattle Performance Awards

This program was initiated in 1986 under the direction of the Alberta Beef Cattle Performance Test Advisory Committee. The purpose of the awards is to recognize excellence in the use of and dedication to the concept of performance testing in Alberta. Awards were established for both a commercial cattle breeder and a purebred cattle breeder. Nominations were invited from the public at large. A total of twenty-one breeders were nominated in the two categories. Presentations will be made in April of 1987.

I. Alberta Young Sire Proving Program

The Young Sire Proving Program was designed to assist producers obtain progeny test proofs for bulls and help identify superior stock for breeding. A grant of $1,250 is available for each bull adequately tested. Over the past few years very few breeders have taken advantage of this program. No money was paid out in the 1986-87 fiscal year. This program has been slated for termination at the end of the 1987-88 fiscal year.

J. Game Ranching

Interest in farming species of wildlife native to Alberta has increased dramatically. In 1985 only 17 farms had game farm licenses. Most of these were small zoo type game farms displaying

a variety of species. In 1986 the number of licenced game farms increased to over 55. Twenty to 25 other farms have filed development proposals with Alberta Fish and Wildlife. Many other producers have expressed an interest in starting but the lack of adequate supplies of breeding stock coupled with uncertainty about the eventual regulations concerning the sale of game meat from farms has caused these others to delay. Most of the new facilities are being set up to farm elk. As of March 1, 1987 about 800 elk were on farms and the number continues to grow almost daily as additional animals are being imported from the northern United States.

Interest has also been increasing in raising bison. Unlike elk, bison are considered a domestic animal in Alberta and come fully under the jurisdiction of Agriculture. All available female breeding stock continues to be used to expand herds. It is a major problem to find enough breeding females to satisfy the demand and to find enough male slaughter animals to fill the meat market. As of April 1, 1986 about 2600 females were being farmed in the province. The number at year end is not known.

Alberta Fish and Wildlife currently administer the regulations governing game farming but Alberta Agriculture continues to do most of the extension work.

There was a very high demand for extension services. In addition to meetings, tours, field days and office visits, and interviews with the media numerous interviews with interested parties were held by telephone. Telephone consultation accounted

for in excess of 50% of the office time of the specialist supervising the game farming area. Many of the calls were a combination of inquiries about the status of the regulations which were being proposed and specific requests for information about management of game species.

K. Warble Control Programs

Warble infestations continued to decline in Alberta in 1986. Less than 1% of carcasses processed in the February to May period contained warble grubs. This represents an almost one hundred fold reduction from the infestation levels of 45% reported in 1968. The department continues to support the agricultural service boards under the Agricultural Pests Act with grants to cover 60% of costs for promotion and enforcement of warble control and 100% of costs for hiring warble inspectors in auction markets.

Table 3

Warble Control Program Costs

| 1986 | 1985 | 1984 | 1983 | 1982 |
|---|---|---|---|---|
| $156,443 | $157,969 | $161,159 | $149,702 | $149,316 |

L. Livestock Production Improvement Program

Agricultural service boards are encouraged to develop projects at the local level to improve livestock production practices in their areas. Grants covering 60% of costs for such projects are provided through the engineering and rural services division in consultation with animal industry division and field services division staff.

Table 4

Livestock Production Improvement Grants

| 1986 | 1985 | 1984 | 1983 | 1982 |
|---|---|---|---|---|
| $42,113 | $56,068 | $42,289 | $43,730 | $69,911 |

M. Fair Assistance Program

Alberta exhibitors were assisted with grants to cover a portion of travel costs to attend specified major shows outside of the province.

Table 5

Livestock Fair Assistance Program

Grants Paid to Alberta Exhibitors

(Numbers of exhibitors shown in brackets)

| Fair | 1986-87 | 1985-86 | 1984-85 | 1983-84 | 1982-83 | 1981-82 |
|---|---|---|---|---|---|---|
| P.N.E. | $31,626 (64) | $22,305 (35) | $30,361 (40) | $34,141 (47) | $30,120 (40) | $36,078 (63) |
| Royal | 7,160 (20) | 12,330 (22) | 6,200 (8) | 8,290 (14) | 12,940 (23) | 9,780 (16) |
| Agribition | 54,160 (167) | 61,825 (188) | 67,765 (203) | 62,945 (186) | 50,410 (145) | 51,845 (132) |
| Denver | 14,100 (26) | 19,050 (36) | 21,000 (40) | 30,700 (52) | 18,800 (31) | 22,200 (32) |
| National Sheep Show | --- --- | 2,625 (4) | --- --- | 2,310 (4) | 3,310 (6) | 3,685 (8) |
| National Goat Show | 385 (2) | 3,675 (11) | --- --- | --- --- | --- --- | --- --- |
| U.S.A. National Sheep Show | --- --- | 225 (1) | --- --- | 1,000 (1) | --- --- | --- --- |
| | $107,431 (279) | $122,035 (297) | $125,326 (291) | $139,386 (304) | $115,580 (245) | $123,588 (251) |

P.N.E. - Pacific National Exhibition, Vancouver
Royal - Toronto Royal Agricultural Winter Fair
Agribition - Canadian Western Agribition, Regina
Denver - National Western Stock Show, Denver

N. Black Fly Abatement

Livestock producers in the areas near the Athabasca river were assisted in protecting their animals from black fly attack.

The county of Athabasca received a grant of $57,000 to cover costs of a contract to monitor black fly larvae levels in the Athabasca river and treat the river with the larvicide methoxychlor when minimum threshold levels are reached in late May and again in early July.

Agricultural service boards in the county of Athabasca and improvement district #18 were provided with technical assistance, pesticide chemicals, equipment and grants through the engineering and rural services division to assist in testing and promoting methods for providing on farm protection for livestock against black fly attack. The Environmental Centre at Vegreville was supported in it's research to test and develop methods to allow livestock to utilize insecticide oilers to protect themselves from black flies.

It was concluded that, for the present, a combination of river larvicide treatment and self-treatment methods for livestock are necessary to provide adequate protection for stock in the area.

The livestock pest specialist supervised a preliminary survey of smaller water courses in the areas affected by black flies to determine whether they might be additional sources of black flies in the area. Larvae were found in two of the streams studied. The study will be continued in 1987.

## O. Sheep R.O.P. Home Test Program

The sheep R.O.P. home test data was processed through the office of the sheep specialist in Airdrie in 1986. Records of 70 producers with a total 7410 sheep were processed using a computer software program which allows producers to receive results within minutes of the time weaning weights are phoned to the keyboard operator, with hard copy of results in return mail.

Table 6

Enrollment in Sheep R.O.P. Home Test

| BREED | 1982 | 1983 | 1984 | 1985 | 1986 |
|---|---|---|---|---|---|
| Suffolk | 1929 | 1432 | 2079 | 2514 | 3339 |
| Hampshire | 460 | 421 | 397 | 240 | 332 |
| N.C. Cheviot | 282 | 244 | 358 | 243 | 255 |
| Rambouillet | 217 | 139 | 253 | 487 | 388 |
| Columbia | 177 | 291 | 227 | 281 | 368 |
| Dorset | 99 | 173 | 172 | 196 | 122 |
| Leicester | --- | --- | 14 | --- | --- |
| Corriedale | 30 | 96 | 51 | --- | --- |
| Finnish Landrace | 54 | 281 | --- | --- | 69 |
| Polypay | --- | --- | --- | --- | 69 |
| Romonov | --- | --- | --- | --- | 22 |
| Other Purebreds | 42 | 47 | --- | 36 | --- |
| Crossbreds | 455 | 404 | 349 | 146 | 2446 |
| TOTAL | 3754 | 3528 | 3900 | 4143 | 7410 |

Beginning in the spring of 1987, the processing of the R.O.P. home test data was divided between the sheep specialists offices in Edmonton and Airdrie anticipating a further increase in numbers of lambs on test. Preliminary indications to March 31, 1987 are that up to 10,000 lambs may be placed on the home test in 1987. This would represent approximately 10% of the estimated 1987 Alberta lamb crop.

P. Alberta Ram Test Station

The central ram test station was operated on the campus of Olds College. 28 breeders contributed 238 rams for test. Animals indexing over 100 for daily gain and passing the rigorous culling process were sold at the annual test station sale in July.

Table 7

1986 Ram Test Station Results

| BREEDERS ON PROGRAM | SHEEP TESTED | A.D.G. SUFFOLK (RAMS) | HEAD SOLD | AVERAGE PRICE (all ram lambs) | TOP PRICE |
|---|---|---|---|---|---|
| 1975 12 | 85 | .32 kg | 45 | $223 | $ 525 |
| 1976 7 | 70 | .36 kg | 43 | 231 | 450 |
| 1877 14 | 165 | .36 kg | 53 | 244 | 500 |
| 1978 16 | 155 | .42 kg | 57 | 275 | 1050 |
| 1979 17 | 123 | .49 kg | 52 | 331 | 675 |
| 1980 17 | 101 | .48 kg | 44 | 323 | 520 |
| 1981 23 | 102 | .48 kg | 40 | 375 | 775 |
| 1982 28 | 115 | .47 kg | 49 | 387 | 1100 |
| 1983 38 | 173 | .514 kg | 61 | 332 | 750 |
| 1984 37 | *228 | .550 kg | 72 | 384 | 1500 |
| 1985 38 | *202 | .532 kg | 61 | 421 | 1350 |
| 1986 28 | **238 | .516 kg | 51 | 416 | 950 |

(*Includes entries on Wool Test.)

(**Includes entries on the Wool Test and entries on a pilot pasture test which is not yet an official part of the Test Station program.)

1986 was the third year of wool breeds testing at the R.O.P. test station. Five rams successfully completed a 365 day wool test. The wool test is continuing as a part of the test station program in 1987.

Q. Pasture Performance in Ram Lambs

For the first time in 1986 a pilot ram growth rate test was conducted on the Hays Community Pasture. Twenty-nine ram lambs were entered on test in early July. After a fourteen day warm up period growth rates were recorded over a 53 day test. Pasture gains ranged from 0.23 to 0.37 kg per day, 45% to 75% of those currently recorded for lambs on grain diets in the R.O.P. test station.

R. Beef Herd Management Program

A position of beef management specialist was added to the animal management section in 1986. The specialist will focus attention on programs and projects which look at all factors of herd management affecting productivity and profit, and extension programs which emphasize the interaction among these factors. Technical assistance and financial support was given to districts which established producer groups interested in the study of all aspects of beef herd management. At March 31, 1987, there were 10 beef herd management groups in the province with a total of 95 producers directly involved.

S. Feed Program Advisory Service And Feed Analysis

A major service provided by the Animal Nutrition Section involved formulating livestock rations and designing feeding programs for livestock producers. This service was frequently based on information obtained from laboratory nutrient analysis of feedstuffs. Analyses from private laboratories were provided by farmers occasionally, but the service functioned largely in conjunction with analyses obtained from the Agricultural Soils and Animal Nutrition Laboratory (A.S.A.N.L.).

Total Samples Analysed

The total number of samples received declined for the third consecutive year to 13,871 during the 1986-87 fiscal year. This is a drop of 3,402 samples (or 19.7%) from the previous year total of 17,273 samples (Table 8). Research samples decreased 33.7% (or 3,956 samples) from 1985-86 to 1986-87 compared with a 5.8% decrease in regular or fee samples. Regular samples constitute submissions from producers or other primary user representatives. In comparison, the number of feed samples analysed by private laboratories increased from 24,000 to approximately 31,000 for a similar period. It appears that while the number of samples analysed at the government laboratory has decreased, the use of feed analysis by livestock producers has continued to increase.

The drop in research sample numbers is due to a combination of factors. Some major projects were completed or ended because of constraints on funding for field research. Also, as a result of downsizing of the laboratory, policy changes were required and were implemented regarding acceptance of research samples resulting in fewer sample submissions. Research samples were submitted by department staff, the University of Alberta and Agriculture Canada staff engaged in projects considered to be of benefit to the primary producers of Alberta. Demonstration samples, however, increased by 760 samples (or 33.1%). Demonstration samples were submitted by department staff for diagnostic purposes or to demonstrate value of feed analysis to producers. Of the total samples received, 24% were regular

samples, 22% were demonstration samples while research samples constituted 54%. These proportions show large changes in demonstration and research samples from those obtained the previous four years (Graph 1). The proportion of regular samples has changed very little over the same period.

Frequency Of Analysis By Month

The number of regular samples analysed during the 1985-86 fiscal year as in the previous year, again reached its peak in November (562) which is one month later than the previous two years (Graph 2). Forty four percent of the total number of regular samples were received during the months of October, November and December. This was slightly lower than 53% of last year, but is similar to the 45% level of the previous two years for these three months.

Demonstration samples were received in more even numbers (except for July) throughout the year with the larger submissions received in the usual months of September to January or February. Research samples were received irregularly throughout the year and analysed during periods of low regular and demonstration (diagnostic) sample submissions.

The frequency of regular sample submissions by feed type indicates that heavy submissions of grains, roughages and silages coincide with harvest times for each of these feed types (Graph 3) although many hay and silage samples are submitted much later. Department staff continued to encourage farmers to take advantage of feed analysis and to analyse feed samples early as a management tool in planning total winter feeding programs.

In 1986-87 fiscal year a total of 896 grains, 2,061 roughages and 403 silages were analysed which represents 27%, 61% and 12% of total regular samples respectively. These proportions have basically remained constant over the last four years.

Types Of Analyses Conducted

The A.S.A.N.L. offered a variety of nutrient and element analyses in its feed analysis service. A package (also called a regular) analysis of roughages and silages consisted of moisture, crude protein, calcium, phosphorus, acid detergent fibre, nitrates and pH (silages only). A package analysis of grains consisted of moisture, crude protein, calcium, phosphorus and bushel weight (whole grains only). The distribution of the types of analyses performed was identified by sample submission type (Table 9) and by total numbers of the different analyses for 1982 through 1986 fiscal years (Table 10).

The major interest in trace mineral nutrition (Table 10) was maintained at the high level of the previous year, with copper, manganese, zinc, sulphur and selenium being the most often requested analyses. Requests for trace mineral analyses increased from 8,237 analyses in 1985-86 to 9,359 in 1986-87 (an increase of 13%); these numbers are higher than 5,351 requests for trace mineral analyses two years ago (1984-85). Magnesium, potassium and sulphur analyses were down slightly (Table 10 and 11) as were the requests for several other elements including iron, sodium and molybdenum. This was due mainly to instrumentation (ICP) breakdown and is not an indication that the demand for more

evaluative information on feeds by producers, extension staff and researchers is declining. Also, many requests for certain types of analyses, including requests for amino acid analyses on grain and complete feeds for poultry and swine and vitamin assays on a variety of feeds, could not be accommodated due to lack of appropriate instrumentation. The presence of a high pressure liquid chromatography (HPLC) unit would have provided this analytical capability and service.

The Near Infra Red Spectroscopy (NIR) unit is not yet being used for routine analysis of grains and forages as had been expected. Also analysis of research samples using the NIR has been negligible. This is because most of the effort throughout the past year has been channelled into instrument repair, re-calibration and equation development.

Feeding Program Recommendations

Analytical results on feeds on each feed analysis report were evaluated for nutritional quality and general recommendations and comments were provided with regard to nutritional requirements of livestock. In 1986-87, 1,585 regular (Table 12) and 793 demonstration (Table 13) for a total of 2,378 reports were printed. Of these, 189 feeding programs were designed for requests made on regular reports and 44 were developed for demonstration reports. This represents a slight decrease (of 8%) on regular reports. An increase in requests of 37% on demonstration reports largely reflects the expanding role of extension staff in encouraging establishment of production groups among beef and dairy producers.

The requests for feeding programs most often entailed detailed ration recommendations for more than one class of animal and level of production. Several rations and alternatives were designed for each request. In addition to the requests indicated in Tables 8 and 9, nutritionists developed a number of feeding programs after the feed analysis reports were mailed. Also, an increased number of feeding program recommendations were made on feed analyses obtained from private laboratories. Thirdly, many recommendations were provided to producers, agribusiness and staff without the benefit of feed analysis. These three types of recommendations were not included in the above totals.

The high level of interest in ration formulation workshops with producers, feed industry and veterinarians grew considerably from last year. A direct result of this increased demand was the organisation and delivery, effected by the Nutrition Section, of an intensive three day Diagnostic Cattle Nutrition Course in nutrition and ration formulation for veterinarians in private practice.

Table 8

Comparison Between The Number Of Samples Received In 1986 And 1985 Fiscal Years And The Average Number Received In 1979 To 1986 Fiscal Years

| Period | Regular | Demonstration | Research | Total |
|---|---|---|---|---|
| 1986-87 | 3,360 | 3,055 | 7,456 | 13,871 |
| 1985-86 | 3,566 | 2,295 | 11,412 | 17,273 |
| Average 1979-86 | 3,899 | 2,300 | 7,904 | 14,103 |

Table 9

Distribution Of Chemical Analyses Of Alberta Feedstuffs
By Sample Submission - 1986-87 Fiscal Year

| Analysis | Regular (%) | Demonstration % | Research % | Total Number Of Analyses |
|---|---|---|---|---|
| Package (regular)* | 24 | 22 | 54 | 13,871 |
| Carotene | 92 | 8 | - | 213 |
| Fat | 9 | 42 | 49 | 211 |
| Selenium | 41 | 42 | 17 | 2,342 |
| Salt | 9 | 91 | - | 54 |
| Ash | 15 | 17 | 68 | 155 |
| Copper | 15 | 33 | 52 | 2,668 |
| Manganese | 14 | 24 | 62 | 2,230 |
| Zinc | 15 | 53 | 32 | 2,582 |
| Iron | 12 | 29 | 59 | 1,879 |
| Magnesium | 22 | 54 | 24 | 1,507 |
| Potassium | 12 | 19 | 69 | 1,750 |
| Sodium | - | 20 | 80 | 224 |
| Aluminum | 26 | 74 | - | 47 |
| Molybdenum | 25 | 9 | 66 | 453 |
| Sulphur | 11 | 21 | 68 | 1,617 |
| Cadmium | - | 100 | - | 35 |
| A.D.I.N. | 18 | 33 | 49 | 339 |
| Prussic Acid | 83 | 17 | - | 18 |
| Boron | - | 4 | 96 | 556 |
| Nickel | - | 100 | - | 29 |
| Cobalt | 2 | 25 | 73 | 241 |
| N.D.F. | - | 12 | 88 | 232 |
| Lignin | - | 21 | 79 | 80 |

* Package analysis includes moisture, protein, calcium, phosphorus, acid detergent fibre and nitrates on roughages and silages and pH on silages and moisture, bushel weight, protein, calcium and phosphorus on grain samples.

Table 10

The Number And Types Of Chemical Analyses On Alberta Feedstuffs Over The Past Five Fiscal Years

| Analysis Performed | Fiscal Years 1982-83 | 1983-84 | 1984-85 | 1985-86 | 1986-87 |
|---|---|---|---|---|---|
| Package (regular)* | 12,455 | 20,395 | 19,226 | 17,273 | 13,871 |
| Carotene | 306 | 380 | 273 | 242 | 213 |
| Fat | 89 | 144 | 166 | 347 | 211 |
| Selenium | 1,811 | 1,863 | 1,687 | 1,758 | 2,342 |
| Salt | 90 | 78 | 106 | 191 | 54 |
| Ash | 1,027 | 2,118 | 1,022 | 674 | 155 |
| Copper | 2,116 | 1,804 | 1,587 | 2,132 | 2,668 |
| Manganese | 1,744 | 1,802 | 1,456 | 2,087 | 2,230 |
| Zinc | 2,041 | 1,805 | 1,601 | 2,139 | 2,582 |
| Iron | 1,290 | 649 | 707 | 1,879 | 869 |
| Magnesium | 1,569 | 1,408 | 1,173 | 2,378 | 1,507 |
| Potassium | 1,638 | 1,144 | 1,121 | 2,264 | 1,750 |
| Sodium | 1,153 | 325 | 556 | 1,346 | 224 |
| Aluminum | 1,229 | 234 | 369 | 1,024 | 47 |
| Molybdenum | 1,428 | 380 | 402 | 1,403 | 453 |
| Sulphur | 1,376 | 731 | 1,018 | 1,805 | 1,617 |
| Cadmium | 1,060 | 103 | 75 | 31 | 35 |
| A.D.I.N. | 148 | 100 | 186 | 290 | 339 |
| Prussic Acid | 5 | 4 | 3 | 5 | 18 |
| Boron | 1,116 | 223 | 522 | 1,472 | 556 |
| Nickel | 961 | - | 115 | 964 | 29 |
| Cobalt | 1,379 | 238 | 9 | 1,021 | 241 |
| N.D.F. | 1,014 | 878 | 952 | 813 | 232 |
| Lignin | 120 | 70 | 108 | 838 | 80 |

* Package analysis includes moisture, protein, calcium, phosphorus, acid detergent fibre and nitrates on roughages and silages and pH on silages and moisture, bushel weight, protein, calcium and phosphorus on grain samples.

Table 11

Selected Types Of Analyses Requested As A Percent Of Total Samples Received

| Analysis Conducted | Fiscal Years 1982-83 (%) | 1983-84 (%) | 1984-85 (%) | 1985-86 (%) | 1986-87 (%) |
|---|---|---|---|---|---|
| Selenium | 14.5 | 9.1 | 8.8 | 10.2 | 16.9 |
| Copper | 17.0 | 8.8 | 8.3 | 12.3 | 19.2 |
| Manganese | 14.0 | 8.8 | 7.6 | 12.1 | 16.1 |
| Zinc | 16.4 | 8.9 | 8.3 | 12.4 | 18.6 |
| Boron | 9.0 | 1.1 | 2.7 | 8.5 | 4.0 |
| Magnesium | 12.6 | 6.9 | 6.1 | 13.8 | 10.9 |
| Potassium | 13.2 | 5.6 | 5.8 | 13.1 | 12.6 |
| Sulphur | 11.0 | 3.6 | 5.3 | 10.4 | 11.7 |
| A.D.I.N. | 1.2 | 0.5 | 1.0 | 1.7 | 2.4 |
| Fat | 0.7 | 0.7 | 0.9 | 2.0 | 1.5 |
| N.D.F. | 8.1 | 4.3 | 5.0 | 4.7 | 1.7 |
| Lignin | 1.0 | 0.3 | 0.6 | 4.9 | 0.6 |
| Total Samples Received | 12,455 | 20,395 | 19,226 | 17,273 | 13,871 |

Table 12

Number Of Feeding Program* Requests On Regular Reports
Printed For The Past Five Fiscal Years

| | 1982-83 | 1983-84 | 1984-85 | 1985-86 | 1986-87 |
|---|---|---|---|---|---|
| Number of Regular Reports | 1,733 | 1,618 | 1,753 | 1,750 | 1,585 |
| Species | | | Feeding Programs | | |
| Beef | 156 | 166 | 163 | 140 | 94 |
| Dairy | 54 | 54 | 36 | 14 | 36 |
| Swine | 88 | 67 | 44 | 33 | 33 |
| Sheep | 8 | 14 | 11 | 5 | 5 |
| Horses | 21 | 32 | 21 | 11 | 18 |
| Poultry | 2 | 4 | 4 | 3 | 3 |
| Others | 12 | 4 | 1 | - | - |
| Total | 341 | 341 | 280 | 206 | 189 |
| Feeding programs as a percent of regular reports (%) | 19.7 | 21.1 | 16.0 | 11.8 | 11.9 |

* A feeding program usually involves several specific ration recommendations.

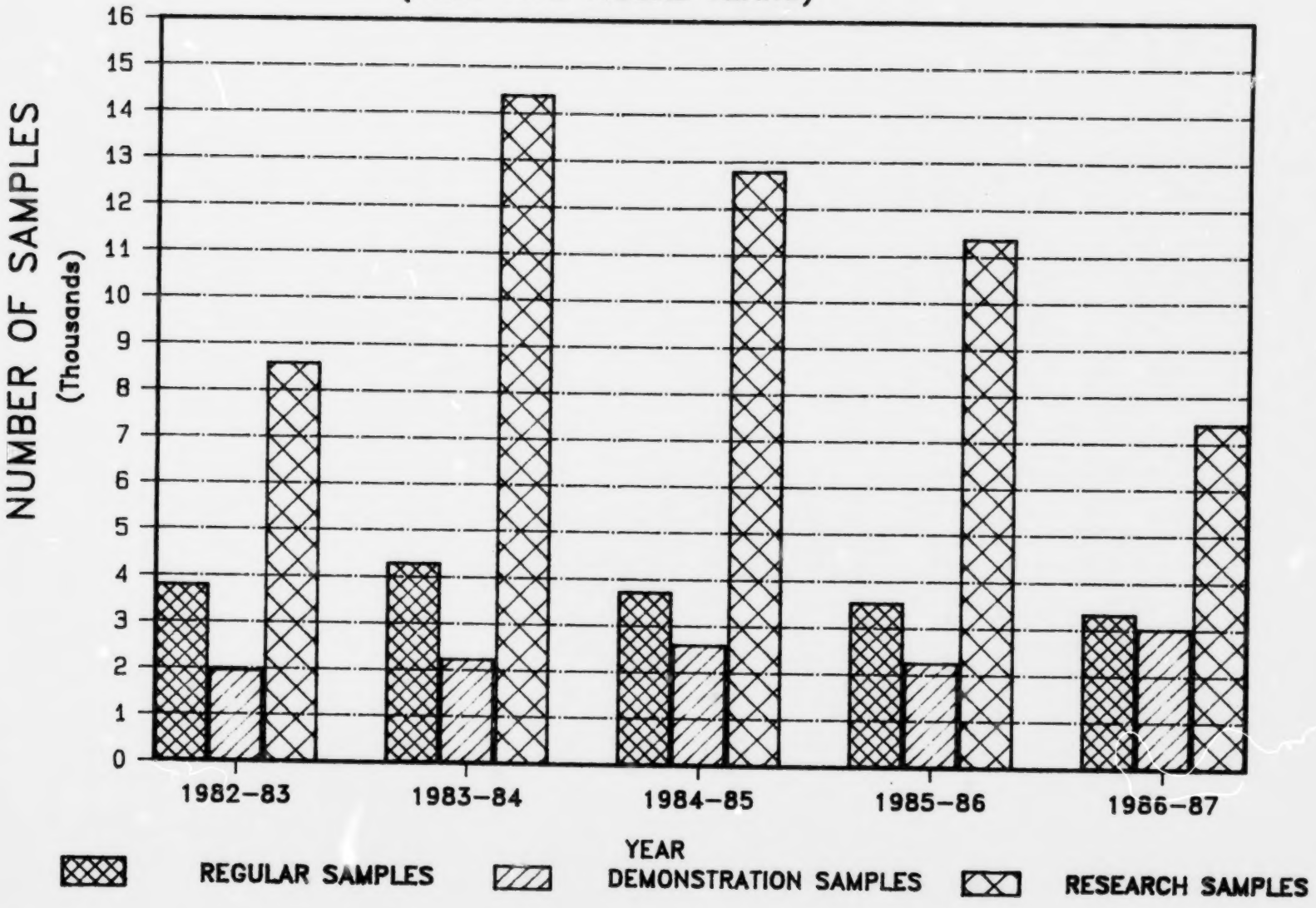
Table 13

Number Of Feeding Program Requests On Demonstration Reports Printed For The Past Five Years

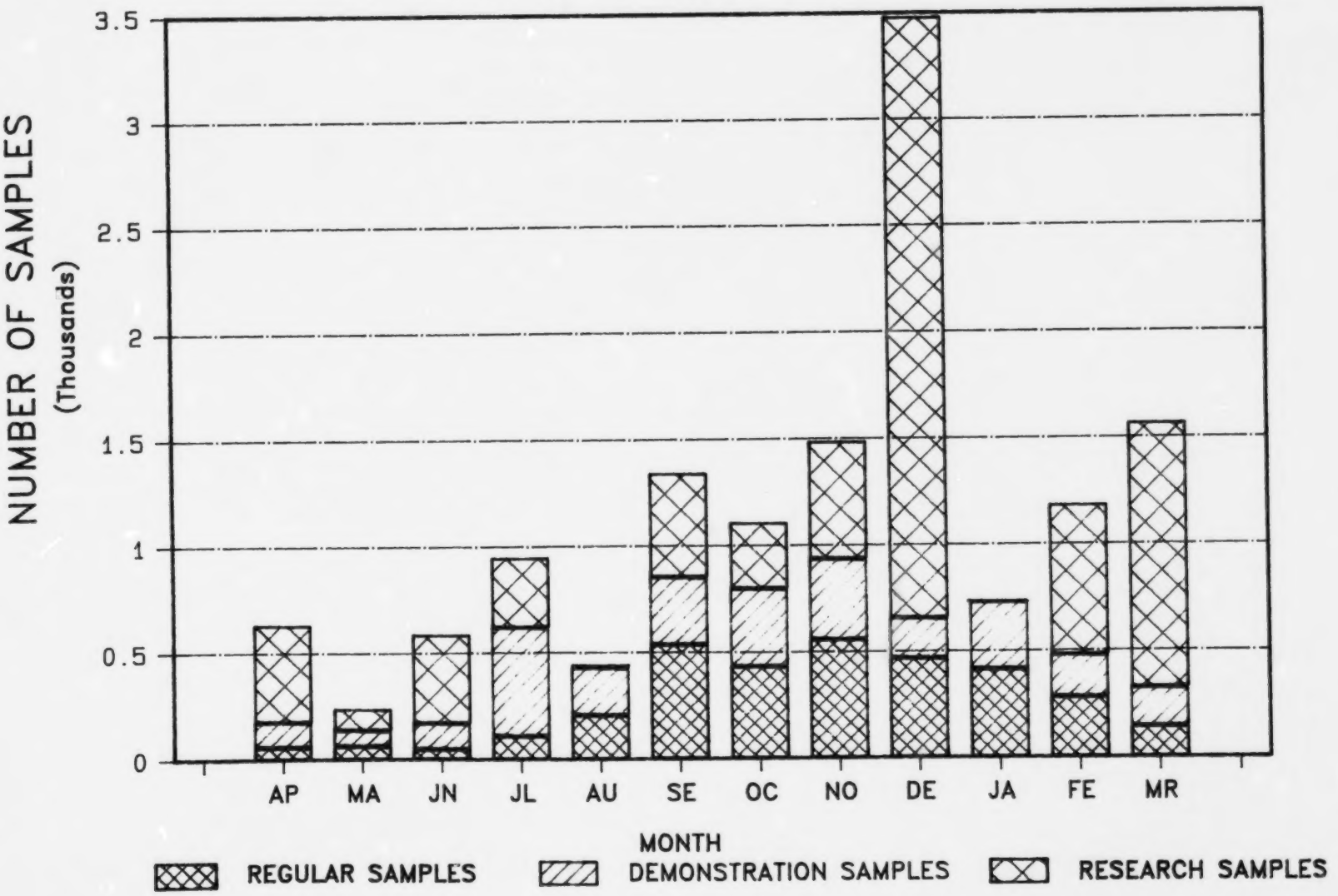
| | 1982-83 | 1983-84 | 1984-85 | 1985-86 | 1986-87 |
|---|---|---|---|---|---|
| Number of Demonstration Reports | 650 | 792 | 965 | 882 | 793 |
| Species | | | Feeding Programs | | |
| Beef | 28 | 30 | 20 | 6 | 19 |
| Dairy | 15 | 19 | 13 | 9 | 8 |
| Swine | 15 | 21 | 12 | 6 | 8 |
| Sheep | 3 | 7 | 3 | 1 | 1 |
| Horses | - | 5 | 6 | 6 | 6 |
| Poultry | 2 | 3 | 3 | 3 | 2 |
| Others | 8 | 1 | 1 | 1 | - |
| Total | 72 | 86 | 58 | 32 | 44 |
| Feeding program as a percent of demonstration reports (%) | 11.1 | 10.9 | 6.0 | 3.6 | 5.5 |

# GRAPH 1. SAMPLE SUBMISSION CLASSIFICATION

(PAST FIVE FISCAL YEARS)

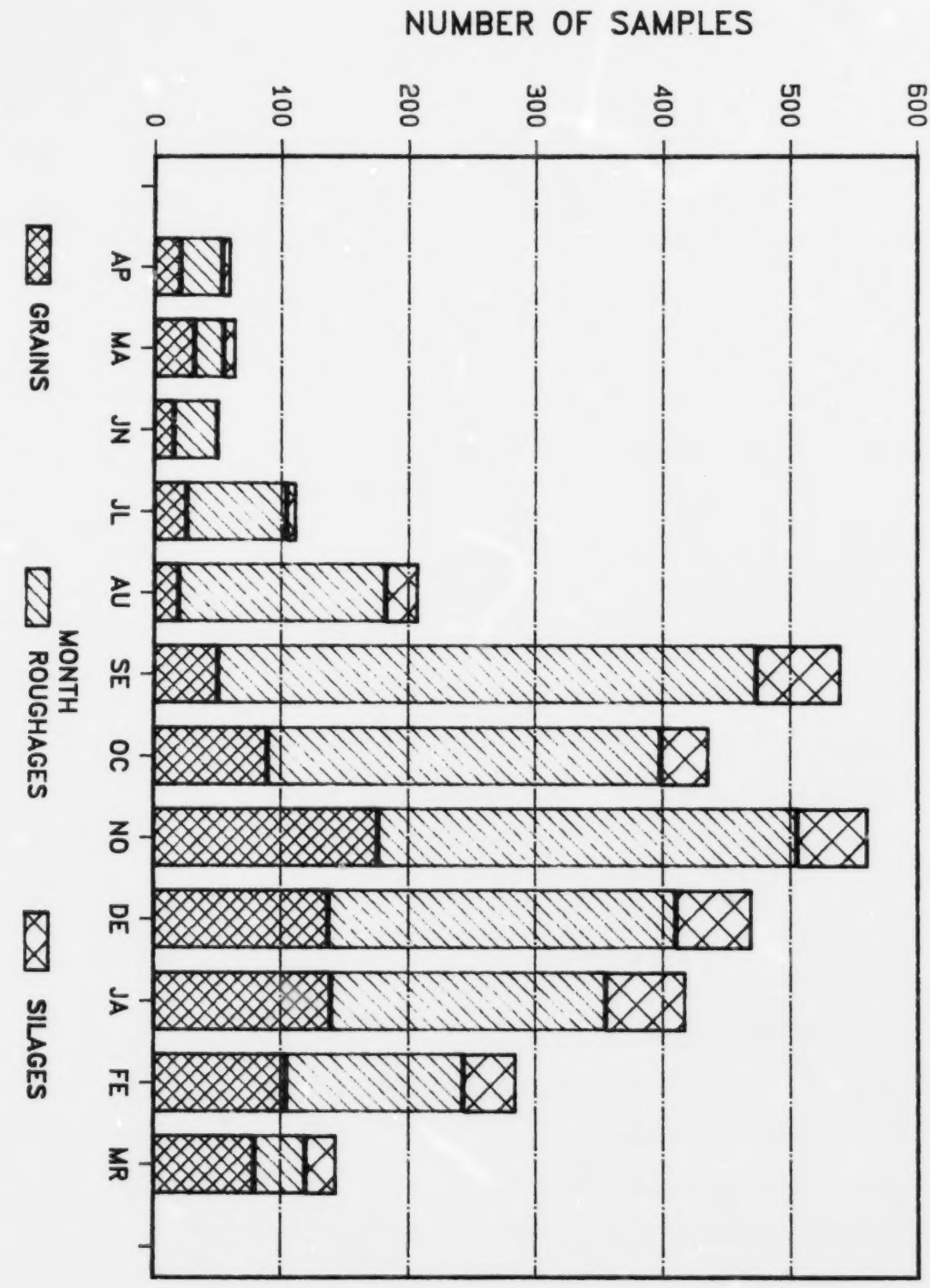


# GRAPH 2. DISTRIBUTION OF SAMPLES (86/87)
## BY MONTH AND CLASSIFICATION



# GRAPH 3 DISTRIBUTION OF SAMPLES (86/87)

BY MONTH AND FEED TYPE



## III. RESEARCH AND DEVELOPMENT

Branch staff were involved in research and development projects in co-operation with producers, field staff, and in some cases agencies outside of the department. 1986 projects included:

A. Growth Implants

1. The effect of Ralgro, Synovex-S and Compudose implants on the growth of yearlings on pasture.
2. The effect of Ralgro, Synovex-S and Compudose implants on the growth of steer calves on pasture.
3. Prediction of average daily gain from body weight and digestible energy values.
4. Analysis of body weight changes of feedlot cattle as a result of castration and dehorning.

B. Reproduction

1. Using artificial heat synchronization for controlled breeding.
2. Determination of prediction equations for sperm concentration at a given percent transmittance.
3. The effect of parity on various reproductive traits of gilts and sows bred naturally.
4. The effect of semen mixing on the conception rate of sows bred by artificial insemination.
5. 1987 cow/calf survey analysis.
6. Controlled suckling. 48 hr. calf removal will enhance pregnancy rate in first 21 days of synchronized breeding season.

7. Milk progesterone. To determine if 'Calf Check', a home test kit available for use by producers, is an effective means of early pregnancy detection in dairy cows.
8. Synovex-C. To determine effect of implantation 45-90 days after birth in replacement heifers on growth rate, pregnancy rates, calf birth weights, calving difficulty, and calf weaning weight.
9. Bull evaluation. Demonstration of bull fertility testing including physical soundness, semen quality, scrotal circumference and libido.
10. Clitoral stimulation. To determine if clitoral stimulation after artificial insemination will enhance conception rates in dairy cows.
11. Luteal function as influenced by GnRH.
12. Embryo transfer. Demonstration of embryo transfer technology in the field and comparison of cost effectiveness when used with normal AI.
13. Collection and processing of semen from double muscled bulls from University of Alberta herd.
14. Thermography of boar testis at Swine AI Center to test effectiveness of procedure in identifying infertility problems. Follow-up slaughter of problem boars and inspection of testis to determine cause of infertility problems.
15. Measure scrotal circumference of ram lambs during growth test period at the Olds College Ram Test Station.

16. Measure scrotal circumference of bulls at the Ellerslie Bull Test Station.

17. Continued to work on the research project on deep freezing Rainbow trout milt in cooperation with Alberta Fish and Wildlife.

18. Initiated a research project to study the relationship between acrosomal integrity of spermatozoa in frozen cattle semen samples and the fertility of such samples under entirely Canadian conditions. Project conducted with the cooperation of United Breeders Inc., Guelph, Ontario and the University of Saskatchewan.

C. Disease and Pest Control

1. Effect of ivomec on the internal parasite load and subsequent growth of yearling steers on pasture.

2. Insecticide (permethrin) cone-tag dispensers for horn fly (haemotobia irritans) control.

3. Field exposure and biological effects on grain farmers during carbofuran application for grasshopper control.

4. Plant bug phenology and damage to creeping red fescue and smooth brome grass.

5. Effects of treatments and study of collection methods for black flies and other flies

6. Curing chronic laminitis in horses.

D. Nutrition and Management

1. The effect of Bovatec and Rumensin on growth performance and feed efficiency of finishing steers at feedlot.

7. Milk progesterone. To determine if 'Calf Check', a home test kit available for use by producers, is an effective means of early pregnancy detection in dairy cows.
8. Synovex-C. To determine effect of implantation 45-90 days after birth in replacement heifers on growth rate, pregnancy rates, calf birth weights, calving difficulty, and calf weaning weight.
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5. Effects of treatments and study of collection methods for black flies and other flies

6. Curing chronic laminitis in horses.

D. Nutrition and Management

1. The effect of Bovatec and Rumensin on growth performance and feed efficiency of finishing steers at feedlot.

2. Factors affecting the level of protein, calcium and phosphorous in pig rations mixed on farm.
3. Effects of supplemental dietary protein and sulfur on growth responses of beef steers to hormonal implants.
4. The reproductive performance of sows fed a canola or a soybean-based diet over four consecutive parities.
5. The growth performance and feed efficiency of grower and finisher pigs fed a canola or a soybean-based diet.
6. Comparison of feeding methods in swine - self vs drop.
7. Use of scout barley in starter rations for pigs.
8. Effects of storage on nutrient status in alfalfa and brome.
9. Comparison of sampling methods core vs grab in alfalfa.
10. Comparison of oats and barley in feeding horses.
11. Comparison of feed placement (ground vs feeder) in horses.
12. Continued activity with the University of Alberta on evaluating the intake and digestibility of forages and predicting the feeding value of forages.
13. Continued work with A.S.A.N.L. to evaluate the efficiency of near infrared reflectance analysis as a method of predicting intake and digestibility of forages by ruminants.
14. Initiated and coordinated with the University of Alberta a high moisture barley project.
15. Initiated and coordinated with the the University of Alberta a study on vitamin E/selenium interactions.

16. In co-operation with extension staff in Region 3 involved in on-farm demonstration project feeding field peas to growing hogs.
17. Updated and expanded the nutrient content information on canola meal produced in seven crushing plants in Western Canada.

E. Others

1. Effects of birth type, age of dam, entry weight and pre-station gain on test station results of ram lambs.
2. The effect of breed of sire, sex of lamb, birth type of lambs and rearing type of lamb on weight gains of lambs on pasture.
3. Ultrasonic measurement of backfat thickness in pigs: technician and site variation as well as its relation to cold carcass backfat thickness.
4. A comparison of the accuracy of two ultrasonic machines for measuring backfat thickness in pigs.
5. Growth performance of ram lambs on test at the Hays pasture.
6. Summary statistics for Warble Control Program.
7. Effects broadleaf herbicide on field peas.
8. Effects of nitrogen application on field peas.
9. On-farm demonstration - Geinger comparison of fertilizer and placement.
10. Analysis of yields in Harrington.
11. Yield analysis in Samson barley - nitrogen/seed treatments.

12. Yield analysis in viscular (wheat) variety trial.
13. Analysis of Cliff Cyre barley yields - effects of six fertilizer treatments.
14. Comparison of meter and dipstick measurements for milk.

## IV. TECHNOLOGY TRANSFER

Branch staff were involved in enhancing the process of incorporating existing husbandry practices on farms through their extension activities. Producer meetings, personal correspondence and contacts, mass media releases, newsletters, factsheets and on-farm demonstrations were used to distribute livestock information to primary producers, industry, the general public and other government agencies. Technology transfer continued to be the major activity of branch staff.

### A. Workshops, Extension Meetings and Field Days

The branch organized and participated in numerous conferences, seminars, meetings, workshops and field days. Alberta Agriculture and the Alberta Cattle Commission, were involved in planning and presenting the first "Alberta Beef Symposium". The symposium featured scientists of international reputation and successful beef producers who discussed ways of improving efficiency of reproduction in the beef herd. Registration at the symposium exceeded 300.

The branch also organized and/or participated as speakers in other major events such as the Managing Agricultural Technology for Profit, Alberta Dairy Seminar, Alberta Pork Congress, Alberta Pork Seminar, Feed Industry Conference, Saskatchewan Beef

Symposium, and the Expert Committee on Animal Nutrition. The branch staff also spoke at many local extension meetings which were organized by regional and district staff on all aspects of livestock husbandry. Staff also spoke at several meetings organized by industry and agribusiness.

Several one-day or series workshops were organized by the branch. The branch resourced and organized a nutrition workshop for feed industry staff and a diagnostic cattle nutrition workshop for veterinarians in private practice. In-service training workshops on livestock pest control, livestock production technology and livestock nutrition were conducted for agricultural fieldman, district agriculturists and other department staff.

Workshops, seminars and clinics were also organized for producers, 4-H clubs, industry and agribusiness representatives. A wide range of topics were covered including: agricultural credit in livestock production; general livestock herd and flock management for beef, sheep and goats; sheep flock performance records; breed selection, cross breeding programs, predator control, artificial insemination and estrus synchronization in goats; flock range management; pest control in herds and flocks; black fly control; warble control; louse control; self treatment methods of protecting livestock from biting flies; integrated herd management; condition scoring, cross breeding in beef; selecting sires, computer worksheets in beef extension, growth implants; and economics of beef herd management.

A wide variety of nutrition topics were presented by staff. In the area of monogastric nutrition the topics that were of the greatest interest were related to sow nutrition and productivity, use of canola meal, and alternate feedstuffs especially field peas and ration formulation. At beef cattle and forage extension meetings, topics related to cattle productivity and nutrition, forage quality, feed analyses and interpretation, and trace minerals again generated much interest. In the field of dairy nutrition, feeding for improved reproduction, increased milk production and condition scoring continued to be major areas of interest.

B. Mass Media Presentations

During the past year, branch staff were active in preparing news releases and information articles on various beef and sheep production topics for radio and popular press. At least 86 articles were prepared for the department's Agri-News, for the radio program (Call-of-the-Land), newspapers and/or trade magazines.

The branch prepared two producer newsletters on a regular basis last year. These were Sheep Footnotes and Game Grower. Sheep Footnotes and Sheep Notes and News were combined into a single newsletter that is published monthly.

C. Requests For Service

The major component of the branch's extension effort continued to involve responding to individual requests from

producers, department staff, other government departments, municipalities, Agriculture Canada, University of Alberta, veterinarians, private consultants and agribusiness.

Requests ranged from specific to general in nature and included all topics related to domestic and semi-domestic livestock production.

## V. STAFF DEVELOPMENT

Branch staff attended a number of workshops, seminars, courses and professional society meetings during the year. The purpose was to improve personal, professional and managerial skills and to keep abreast of new subject matter developments in the areas of livestock production.

## VI. STAFF CHANGES

Mr. D. Scheer remained on secondment to the Alberta Feed Grain Market Adjustment Program begun July 1, 1985. In his absence Messers. Corbett, Jaikaran, Engstrom and Suleiman continued in a three-month rotation as Acting Section Heads throughout the year.

September 1, 1986, John Basarab, transferred to beef management specialist (a redefined position assigned to the animal management section) from research analyst.

Dr. Laura Rutter was hired as reproductive physiologist on September 15, 1986.

Dr. Laki Goonewardene was hired as research analyst on December 1, 1986.

## DAIRY PRODUCTION BRANCH

Dairy production branch responsibilities included dairy farm inspection services, the milk grade and price program, technical resource services and information, support and co-ordination for the regional dairy extension delivery system. Data processing and record utilization advisory services were provided to Alberta dairymen participating in the Alberta dairy herd improvement program. A grant of approximately 50% of the cost of field services is provided to Alberta Dairy Herd Improvement Services.

Initiatives undertaken by the branch during 1986-87 included the following:

- converted all D.H.I. herds to the new national milk recording program in May, 1986 in cooperation with Alberta Dairy Herd Improvement Services;
- introduced a certificate of excellence program to recognize Alberta milk producers who consistently produce superior quality milk from well maintained premises;
- co-operated with industry in a study to evaluate the use of milk meters on milk transport vehicles;
- assisted the Alberta Dairymen's Association in introducing a Dairy Farm Beautification Award;
- encouraged and supported an introductory study to assess the possible impact of a multi-component pricing system on Alberta's dairy industry;

- introduced a numerical rating system for dairy farm inspection purposes;
- updated and distributed revised chapters of the Dairy Production Course.

Resource Services

The dairy production branch provided resource materials, co-ordination and training to staff and agri-business personnel. Assistance was provided to regional staff in conducting workshops and seminars on a wide range of dairy production issues. Featured topics included condition scoring, raising replacements, quota management, mastitis control and ration balancing.

A highlight of the year was a series of three reproduction meetings featuring Dr. Jack Britt, North Carolina State University. The meetings in Lethbridge, Olds and Nisku were attended by approximately 500 people.

Regional staff conducted workshops on making effective use of the information provided by the new D.H.I. program format.

The Alberta Dairy Production Course was updated and all registered holders received the new versions of three chapters. To date, in excess of 800 copies of the course have been distributed at a cost of $30.00 each. Supplementary materials in the form of fact sheets, slide presentations and newsletter articles were prepared.

Branch staff assisted the Alberta Dairymen's Association in introducing a Farm Beautification competition. Provincial and regional winners were selected on the basis of landscaping and general condition of the farmstead. The presentation of awards was made at the annual Alberta Dairymen's Association Convention.

The fifth annual Alberta Dairy Seminar was held in Banff. The seminar was jointly sponsored by the University of Alberta, Alberta Milk Producers' Association and Alberta Agriculture. Topics covered included: free trade, raising replacements, genetic improvement, biotechnology and multiple component pricing. This event continues to grow in popularity with both producers and agri-business. The proceedings were recorded on audio cassette for use in workshops and individual consultations. The proceedings manual was provided to all participants and made available to others at minimal cost.

Several fact sheets were prepared by, or in cooperation with, branch staff. Topics included milking management, reproduction and the use of D.H.I. information.

The newsletter "Alberta Dairy Producer" was published monthly. Branch staff, regional dairy specialists and other department staff increased their involvement in writing articles for the newsletter. This publication continues to be a very widely read source of marketing and production information for the dairy industry.

In-service training programs were conducted for department staff and agri-business. Topics covered included ration formulation programs, use of D.H.I. information, milk marketing and enterprise analysis. Seminars designed specifically for lenders continued to be well received.

Dairy Farm Inspection

Inspection and advisory services were provided to Alberta dairymen in the areas of milk quality, milk production, equipment standards, construction and upgrading of dairy facilities.

Dairy farm inspection staff performed 3,155 farm inspections in 1986-87 and an additional 1,474 farm consultations. A numerical farm inspection report was introduced to enhance the inspection program. The new format improved the ability of staff to complete an objective analysis of dairy farm sanitation and maintenance practices.

The milk grade and price program and the advisory services provided to producers continued to contribute to the excellent quality of milk produced in the province in 1986. The milk processors, through farm service programs continued to support milk quality improvement on dairy farms.

A total of 38,561 milk samples were analyzed for compliance with current milk quality standards. The milk grade and price program, during the twelve month period ending March 31, 1987 recorded 119 Standard Plate Count violations, 24 Freezing Point violations and 105 Inhibitor violations - totalling 248 violations, a decrease of 25 violations from the year previous. Forty-seven loads of milk were destroyed due to inhibitor contamination.

Funds collected from producers resulting from milk grade deductions were allocated to pay innocent producers for lost milk and to compensate milk transport operators when confirmation was required for suspicious positive loads and for disposal of loads tested positive. The remainder of the funds were redistributed to all milk producers on a monthly basis by the Alberta Dairy Control Board.

A non-compliance rate of 4.3% was achieved in the fluid milk sector, an improvement of .5% from the previous year. The industrial

milk sector also improved their non-compliance rate. Of the industrial milk producer samples, 87.1% complied with fluid microbiological standards.

At March 31, 1987 there were 1,549 milk producers in Alberta, a decline of 18 from the previous year. Of that total, 1,519 were certified and 30 were classified as industrial. Industrial producer numbers declined by 79 from the previous year as producers continued to upgrade their facilities to meet industry certification requirements or voluntarily discontinued milk production.

Bulk milk somatic cell counts continued to be monitored and advisory assistance was provided to reduce the incidence of mastitis in dairy herds. Bulk milk tank somatic cell counts averaged 364,490 cells per millilitre for fluid producers and 618,570 cells per millilitre for industrial producers. These averages indicate that continued effort is required in the area of mastitis prevention and control.

The Alberta Award of Excellence sponsored by Alberta Agriculture was introduced in 1986 to recognize dairy producers for excellence in quality milk production and maintenance of dairy premises. Seventy six milk producers were presented with the award at the annual Alberta Dairymen's Association Convention in February, 1987.

## TABLE 1

The following table summarizes the activities of Dairy Farm Inspection. Comparisons are based upon April 1 to March 31 year basis.

| | 1985-86 | 1986-87 |
|---|---|---|
| Number of Certified Milk Producers | 1,458 | 1,519 |
| Number of Industrial Milk Producers | 109 | 30 |
| TOTAL PRODUCERS | 1,567 | 1,549 |
| Inspections of Dairy Farm Premises | 3,680 | 3,155 |
| Non-Inspection Dairy Farm Calls | 896 | 1,474 |
| TOTAL FARM CALLS | 4,576 | 4,629 |
| TOTAL RAW MILK SAMPLES ANALYZED | 40,406 | 38,561 |
| Quality of Milk Samples Analyzed | | |
| Fluid Milk Samples Non-Compliance (75,000/mL S.P.C.) | 4.8% | 4.3% |
| Industrial Milk Samples Non-Compliance (200,000/mL S.P.C.) | 5.3% | 4.0% |
| Industrial Milk Samples which met Fluid Milk Standards | 94.7% | 87.1% |
| Average Somatic Cell Counts - Fluid | 402,791 | 364,490 |
| (Leucocytes) - Industrial | 596,352 | 618,570 |
| Number of Violations - SPC | 156 | 119 |
| - Inhibitors | 101 | 105 |
| - Cryoscopic Analysis | 16 | 24 |
| TOTAL VIOLATIONS | 273 | 248 |

Number of Violations

| | 1982-83 | 1983-84 | 1984-85 | 1985-86 | 1986-87 |
|---|---|---|---|---|---|
| 1 Violation | 405 | 212 | 199 | 179 | 153 |
| 2 Violations | 127 | 87 | 73 | 64 | 63 |
| 3 Violations | 52 | 27 | 33 | 19 | 19 |
| 4 Violations | 18 | 7 | 7 | 10 | 7 |
| More than 4 | 16 | 9 | 4 | 2 | 6 |

Milking Management

Milking management specialists completed 113 milking equipment checks during the year. Troubleshooting, cleaning problems and bulk tank malfunctions constituted another 46 farm calls. A total of 26 stray voltage investigations were completed. Consultations were provided concerning design and installation of new milking systems and reduction of somatic cell counts which are an indicator of udder infections (mastitis).

A total of 38 new milking systems were approved, down from 52 the previous year.

Seminars were conducted for department and industry relating to milking equipment function, design and procedures used to evaluate milking systems. This information was also presented at the Veterinary College in Saskatoon to students, staff, Saskatchewan government and industry personnel.

Milking equipment and management resource information was developed in fact sheet format. A film titled "Milking Management" was produced for use in dairy extension programs.

A milk metering system was purchased and installed in a bulk milk truck owned and operated by Alpha Milk Co., Red Deer. The function of this meter is being evaluated under Alberta conditions. The dairy industry throughout North America is keenly interested in this project. Canada Consumer and Corporate Affairs, Weights and Measures personnel are also co-operating with the branch in determining design and function specifications of truck mounted milk metering systems.

This study of milk meters evolved from an on-going concern of the branch about the accuracy of measuring milk volumes in farm bulk milk tanks. Truck mounted milk meters for milk measurement at the farm are widely used in Europe.

Milk Recording

The branch cooperated with Alberta Dairy Herd Improvement Services and Alberta Public Works in conversion to the new national milk recording program in May 1986. Co-operation has continued by identifying and resolving program problems within the system through monitoring the processing of the data.

Significant improvements in service provided to the DHI customer occurred during the year, such as reduced turn-around time of herd reports which include monthly herd and cow production summaries used for herd management purposes.

Annual fees, as determined and administered by Alberta Dairy Herd Improvement Services, increased to $5.50 per cow for owner-sampler and $19.00 per cow for supervised services. Fees for individual cow somatic cell counting remain unchanged at $2.00 per cow per year.

The summary reports generated by the new milk recording program provided an actual count of the number and status of the cows and herds active within the DHI program on a particular day. The previous system provided statistics which were accumulative totals of all cows and herds tested once or more during the year.

Effective December 1, 1986 Alberta Dairy Herd Improvement Services assumed administration of field services for ROP herds in Alberta and annual milk recording reports will now reflect some ROP statistics.

1986 Statistics:

*Participation in Milk Recording Program in Alberta (January 1, 1987)

| Service Level | Number of Herds | Number of Cows | Herd Size | Cows On SCC |
|---|---|---|---|---|
| SUPERVISED | 118 | 8,898 | 74 | 36,789 (71%) |
| OWNER-SAMPLER | 668 | 42,730 | 64 | |
| ROP** | 133 | 8,558 | 64 | 4,399 (51%) |
| TOTAL | 919 | 60,186 | 65 | 41,188 (68%) |

* Production Statistics for 1986 are not available at annual report preparation time.

**A federal Record of Performance program primarily for registered dairy cattle in Canada.

## DAIRY PROCESSING BRANCH

### Overview

Total milk supply was up slightly from the previous year. Fluid milk sales, on a per capita basis, continued to improve but were still significantly below the level of five years ago. Better quota management by producers resulted in less milk being shipped out of the province during the "flush" season. During this time the milk drying plants and some cheese manufacturing plants were operating at maximum capacity.

### Dairy Manufacturing Plants

The renovation and modernization of most plants continued in varying degrees of complexity. A high level of interest continued for the establishment of dairy manufacturing plants, particularly for the manufacturing of cheese. Although several enquiries were received, few applications were made because of high cost and uncertainty of milk supply.

Existing plants continued to investigate the addition of product lines to their operation. Two plants applied for an expansion of their licence coverage to include frozen dairy products, and one applied for coverage for cultured dairy products. A plant in the south west part of the province ceased the processing of fluid milk to devote their full attention to the manufacture of cheese. The cheese plant in the southeast part of the province that commenced initial operation last year is now fully operational. A small repacking operation for milk powder came on stream after several years of selling consumer sized

packages purchased from outside the province. A small family operated cheese plant started manufacture of specialty cheese in the Edmonton area and will be catering to the Italian and Portuguese markets.

A major program was introduced during the year for the inspection and testing of milk pasteurization units. All components of the pasteurizers are inspected and subjected to a variety of tests to ensure that all dairy products processed through them are effectively pasteurized and that the pasteurized products cannot be contaminated with raw product. Several modifications and additional controls were necessary for most plants. The completion dates have had to be extended because of lack of availability of the components, due to the high priority given to upgrading pasteurizers by almost all jurisdictions in North America.

Plant inspection programs were continued to ensure compliance of all Alberta dairy manufacturing facilities and their products with existing regulations.

The branch continued to participate in the federal in-depth plant inspection program. Most of the fluid milk processing plants are newly built or recently renovated and continue to receive high scores upon inspection.

New inspection guidelines were introduced by Agriculture Canada after consultation with the provinces. These guidelines reflect new technologies, equipment and components available to the industry. As a result of these, the plant scores dropped slightly in all areas. Current positions and comparative data for last year is as follows:

| | 1985-86 | 1986-87 |
|---|---|---|
| Alberta Average Plant Score | 88.1 | 86.1 |
| National Average Plant Score | 82.7 | 82.6 |
| Lowest Scoring Plant In Alberta | 77.4 | 76.4 |
| Highest Scoring Plant in Alberta | 99.6 | 99.1 |

Dairy Products

Bacteriological and compositional standards of fluid and manufactured dairy products remained very high and substantially higher than the regulatory minimum. The branch continued to concentrate on milk product keeping quality as reflected by a stressed product test as the yardstick by which quality was measured. This more stringent test is necessary since products must remain fully acceptable to consumers after sometimes lengthy periods in the distribution system, not always under ideal storage conditions. Dairy processing specialists investigated isolated lapses in quality rather than chronic difficulties in producing satisfactory products.

Virtually all freshly processed milk met Health Standards. After subjection to severe conditions (7 days at 7°C), 73.0% were still within requirements of Board of Health regulations. The branch continues to work towards 100% compliance at both levels.

Farm separated cream volumes continue to diminish as these producers either convert to industrial milk or phase out of the dairy business. One of the three remaining plants that rely on farm separated cream has announced their intention to cease operation as volumes no longer make it viable.

## Licensing

| Licenses Issued | 1985-86 | 1986-87 |
|---|---|---|
| Milk & Cream Graders & Testers | 95 | 90 |
| Cream Graders | 66 | 65 |
| Plant Milk Graders | 81 | 135 |
| Bulk Tank Milk Graders | 285 | 287 |
| Dairy Manufacturing Plant | 40 | 37 |

## Regulatory

Dairy Processing Specialist activities in regulatory functions were:

| | 1985-86 | 1986-87 |
|---|---|---|
| Dairy Plant Inspections | 427 | 400 |
| Cream Grades Checked | 1,343 | 958 |
| Cream Grades Adjusted | 4 | 1 |
| Cream Tests Checked | 590 | 484 |
| Cream Tests Adjusted | 4 | 2 |
| Bulk Tank Trucks & Drivers Inspected | 117 | 150 |

## Margarine

The branch's responsibilities under the Margarine Act were carried out at a similar level of activity as in previous years. Margarine produced and/or sold in the province was sampled and analyzed throughout the year and found to comply fully with compositional requirements. There were continued attempts to market imitation dairy products in contravention of the Dairy Industry Act. As well as infringing on the Dairy Industry Act, methods used by promoters frequently contravened other regulations, e.g. those of the Health Protection Branch and Consumer and Corporate Affairs. This branch will continue to collaborate with other agencies to regulate the activities of promoters of imitation dairy products.

Extension

Dairy processing specialists worked closely with dairy processors in the implementation of technological changes and in broadening the range of dairy processing in the province. A major extension activity in recent years has been a voluntary Certification Program for dairy plant employees to assist in attaining improved quality through increased education and awareness. Lower turnover of staff in most dairy plants accounts for the reduction in issue of Dairy Plant Worker certificates. The awarding of certificates in specialist categories such as Cheesemaker, Plant Sanitarian, and Pasteurizer Operator, has increased.

The licensing of Milk and Cream Graders and Testers, and Bulk Milk Graders is a legislative responsibility of this branch. In view of the important role of the Bulk Milk Grader in the collection of samples by which the producer is paid, especially since the introduction of the milk grade and price program, the branch has increased emphasis on testing, retesting and inspection of Bulk Milk Graders.

Together with Agriculture Canada and the Alberta Dairymen's Association, the processing branch continues to be active in sponsoring and judging dairy product quality competitions. Most competitions are based on monthly samples. Winners are recognized annually at the Dairymen's Convention.

Branch staff have worked closely with some health units in the development and implementation of an inspection program for soft serve ice cream retail outlets.

Increased emphasis was placed on improving the quality of cultured dairy products. A project was developed to use the facilities at the Food Processing Development Centre to investigate the use of new technology in the manufacture of yogurt.

Special Projects

The principle activity of Special Projects to March 31, 1987 was the preparation of amendments to the Dairy Industry Act and relevant changes in the proposed new Dairy Industry Regulations under the Act.

Other activities related to an investigation of the security requirements for dairy manufacturing plants under the Dairy Industry Act; the preparation of a proposal to establish a dairy producers' protection fund for discussion with industry; ongoing consultation with industry on regulatory and legislative matters; investigating and assisting in the resolution of problems associated with the dairy industry.

TABLE I Estimated Farm Value of Alberta Milk Production April 1986 - March 1987

The quantity, price, value and utilization of milk production during April 1986 to March 198 is reported in the following table. To indicate changes from the previous year, 1985-86 figures have been included.

| | Year | Butterfat Production ' 000 kg | Milk Equivalent '000 | % of Total | Prices $ | Valu $'000 |
|---|---|---|---|---|---|---|
| Butterfat for Creamery Butter | 1986-87 | 787 | 28,485 L | 3.88 | 4.622/kg | 3, |
| | 1985-86 | 870 | 24,160 L | 4.30 | 4.427/kg | 3, |
| Milk Purchased for the Manufacture of Powder and Butter (1) | 1986-87 | 4,018 | 114,790 L | 19.81 | 39.41/hL | 45, |
| | 1985-86 | 3,696 | 102,556 L | 18.24 | 38.49/hL | 39, |
| Milk for Cheesemaking | 1986-87 | | 110,212 L | 19.02 | 39.41/hL | 43, |
| | 1985-86 | | 107,469 L | 19.11 | 38.49/hL | 41, |
| Milk for Concentrating and Milk & Butterfat for Ice Cream & Misc. Products (2) | 1986-87 | | 54,963 L | 9.49 | 41.21/hL | 22, |
| | 1985-86 | | 49,731 L | 8.84 | 40.29/hL | 20, |
| Milk Purchased for Fluid Purposes | 1986-87 | | 256,694 L | 44.31 | 49.31/hL | 126, |
| | 1985-86 | | 256,588 L | 45.64 | 50.62/hL | 129, |
| Kept on Farms, Skimmilk for Creamery Butter | 1986-87 | 708 | 20,228 L | 3.49 | 18.27/hL | 3, |
| | 1985-86 | 783 | 21,744 L | 3.87 | 17.56/hL | 3, |
| Estimated Federal Subsidy | 1986-87 | | | | | 19, |
| | 1985-86 | | | | | 18, |
| TOTAL | 1986-87 | | 579,372 | | | 265, |
| | 1985-86 | | 562,248 | | | 257, |

(1) Includes milk used for the making of cottage cheese.

(2) Does not include butterfat from creamery butter used in the manufacture of ice cream

TABLE II Estimated Production and Value of Factory Dairy Products April 1986 - March 1987

The following table shows the quantity, price and value of dairy products manufactured or processed in Alberta dairy manufacturing plants during April 1986 to March 1987, with corresponding figures for 1985-86 added to provide a means for comparison.

| | Year | Quantity ' 000 | Price $ | Value $ '000 |
|---|---|---|---|---|
| Creamery Butter (kgs) | 1986-87 | 7,409 kg | 5.454/kg | 40,408 |
| | 1985-86 | 6,372 kg | 5.320/kg | 33,899 |
| Cheddar Cheese (kgs) | 1986-87 | 6,822 kg | 6.746/kg | 46,021 |
| | 1985-86 | 6,315 kg | 6.639/kg | 41,925 |
| Variety Cheese (kgs) | 1986-87 | 5,022 kg | 5.766/kg | 28,957 |
| | 1985-86 | 5,220 kg | 5.554/kg | 28,992 |
| Ice Cream (litres) (1) | 1986-87 | 31,108 L | 1.850/L | 57,549 |
| | 1985-86 | 31,287 L | 1,730/L | 54,127 |
| Fluid Milk Sales (litres) | 1986-87 | 215,084 L | .790/L | 169,916 |
| | 1985-86 | 217,841 L | .823/L | 179,283 |
| Fluid Cream Sales (litres) | 1986-87 | 9,520 L | 1.570/L | 14,946 |
| | 1985-86 | 9,323 L | 1.680/L | 15,663 |
| Fluid Skimmilk, Buttermilk and Chocolate Sales (litres) | 1986-87 | 32,385 L | .862/L | 27,916 |
| | 1985-86 | 28,868 L | .923/L | 26,645 |
| Miscellaneous Manufactured Products (2) | 1986-87 | | | 122,189 |
| | 1985-86 | | | 108,697 |
| TOTAL | 1986-87 | | | 507,902 |
| | 1985-86 | | | 489,231 |

(1) Includes hard and soft ice cream.

(2) Includes concentrated milk products, cottage cheese, whey cheese and yoghurt.

# ALBERTA DAIRY STATISTICS

TABLE III

## Milk Production and Utilization

| Year | Total Milk Production in Millions of Units | Creamery Butter | Dairy Butter | Cheese | Miscellaneous Factory Products | Milk and Cream Consumed | Farm Fed Animals |
|---|---|---|---|---|---|---|---|
| | | Percentage of Total Milk | | | | | |
| 1945 | 1,461 lb. | 55.6 | 7.0 | 3.1 | 3.1 | 24.5 | 6.7 |
| 1950 | 1,375 lb. | 53.2 | 8.1 | 2.4 | 4.6 | 25.6 | 6.1 |
| 1955 | 1,438 lb. | 51.0 | 4.6 | 1.7 | 5.5 | 32.3 | 4.9 |
| 1960 | 1,650 lb. | 52.9 | 3.5 | 1.3 | 7.2 | 30.0 | 5.1 |
| 1965 | 1,641 lb. | 52.1 | 1.6 | 1.7 | 8.1 | 30.7 | 5.8 |
| 1970 | 1,529 lb. | 44.9 | 1.3 | 2.8 | 11.2 | 33.6 | 6.2 |
| 1973 | 1,396 lb. | 39.0 | 0.8 | 5.4 | 12.8 | 35.4 | 6.6 |
| 1974 | 1,284 lb. | 34.1 | ---- | 6.5 | 13.5 | 38.9 | 7.0 |
| 1975 | 1,276 lb. | 37.7 | ---- | 7.5 | 12.0 | 35.7 | 7.1 |
| 1976 fiscal | 1,273 lb. | 31.6 | ---- | 8.3 | 12.5 | 38.4 | 9.2 |
| 1977 fiscal | 1,251 lb. | 30.7 | ---- | 10.3 | 10.4 | 41.8 | 6.8 |
| 1978 fiscal | 426 hL | 27.6 | ---- | 11.2 | 10.6 | 44.1 | 6.5 |
| 1979 fiscal | 450 hL | 33.1 | ---- | 12.3 | 11.4 | 43.2(1) | ---- |
| 1980 fiscal | 480 hL | 37.9 | ---- | 11.2 | 10.6 | 40.3(1) | ---- |
| 1981 fiscal | 528 hL | 29.4 | ---- | 5.6 | 9.2 | 52.8(1) | ---- |
| 1982 fiscal | 585 hL | 28.5 | ---- | 14.4 | 11.7 | 45.4(1) | ---- |
| 1983 fiscal | 564 hL | 28.6 | ---- | 11.4 | 9.1 | 45.7(1) | ---- |
| 1984 fiscal | 584 hL | 29.1 | ---- | 14.2 | 8.9 | 43.3(1) | ---- |
| 1985 fiscal | 562 hL | 22.5 | ---- | 19.11 | 8.8 | 45.6(1) | ---- |
| 1986 fiscal | 579 hL | 23.7 | ---- | 19.0 | 9.5 | 44.3(1) | ---- |

(1) Milk Farm Home Consumed amount usually included in this figure is no longer available.

TABLE IV

## Total Value of Dairy Products*

| | $ '000 | | $ '000 |
|---|---|---|---|
| 1925 | 23,002 | 1974 | 126,114 |
| 1930 | 19,676 | 1975 | 154,739 |
| 1935 | 14,253 | 1976 fiscal | 180,047 |
| 1940 | 17,324 | 1977 fiscal | 200,333 |
| 1945 | 29,325 | 1978 fiscal | 228,457 |
| 1950 | 42,513 | 1979 fiscal | 241,628 |
| 1955 | 51,942 | 1980 fiscal | 322,324 |
| 1960 | 65,187 | 1981 fiscal | 379,877 |
| 1965 | 69,080 | 1982 fiscal | 449,185 |
| 1970 | 82,849 | 1983 fiscal | 509,230 |
| 1971 | 84,569 | 1984 fiscal | 493,120 |
| 1972 | 87,844 | 1985 fiscal | 495,331 |
| 1973 | 104,535 | 1986 fiscal | 507,902 |

* Total value of all manufactured and processed products including that portion of milk and by-products utilized on farms.

TABLE V

## Farm Value of Milk Production

| | $ '000 | | $ '000 |
|---|---|---|---|
| 1965 | 51,170 | 1979 fiscal | 159,322(3) |
| 1970 | 62,883(1) | 1980 fiscal | 192,459 |
| 1973 | 78,484 | 1981 fiscal | 226,491 |
| 1974 | 101,185 | 1982 fiscal | 246,219 |
| 1975 | 116,826 | 1983 fiscal | 236,342 R |
| 1976 fiscal | 129,473 | 1984 fiscal | 257,491 R |
| 1977 fiscal | 145,220(2) | 1985 fiscal | 257,215 |
| 1978 fiscal | 153,570 | 1986 fiscal | 265,086 |

(1) From 1970 forward, includes Federal Government Subsidy.
(2) From 1977 forward, price is F.O.B. Factory rather than F.O.B. Farm.
(3) Total no longer includes values of Milk Farm Home Consumed and Fed Farm Animals. The comparative 1978 figure excluding these two values is 140,465.
R Revised Statistics

TABLE VI

## Value of Factory Dairy Products

| Year | Creamery Butter | Cheddar Cheese (1) | Specialty Cheeses | Ice Cream | Fluid Milk and Cream | Skimmilk, Buttermilk and Whey | Miscellaneous Manufactured Products | Total |
|---|---|---|---|---|---|---|---|---|
| | Thousands of Dollars | | | | | | | |
| 1965 | 19,641 | 882 | Nil | 6,605 | 22,028 | 1,172 | 7,894 | 58,222 |
| 1970 | 19,987 | 1,750 | Nil | 9,747 | 28,262 | 1,636 | 10,605 | 71,987 |
| 1973 | 17,550 | 3,456 | Nil | 12,474 | 38,184 | 2,779 | 19,092 | 93,535 |
| 1974 | 16,538 | 4,820 | Nil | 14,889 | 55,177 | 3,154 | 20,973 | 115,551 |
| 1975 | 23,895 | 7,194 | 2,406 | 17,611 | 61,799 | 6,180 | 23,692 | 142,777 |
| 1976(2) | 20,921 | 7,693 | 3,252 | 18,461 | 70,558 | 14,484 | 24,304 | 159,673 |
| 1977 | 23,799 | 9,604 | 4,557 | 18,796 | 79,940 | 17,088 | 26,784 | 180,568 |
| 1978 | 21,049 | 11,063 | 6,708 | 20,107 | 104,867 | 17,029 | 28,275 | 209,098 |
| 1979 | 23,821 | 11,056 | 9,111 | 19,996 | 125,317 | 21,026 | 31,301 | 241,628 |
| 1980 | 27,992 | 15,135 | 12,194 | 31,587 | 181,958 | ------ | 40,531 | 309,397 R |
| 1981 | 35,435 | 18,369 | 14,576 | 34,563 | 200,140 | ------ | 59,180 | 362,263 R |
| 1982 | 40,358 | 24,259 | 18,554 | 38,360 | 213,353 | ------ | 88,657 | 423,541 R |
| 1983 | 40,014 | 26,487 | 17,948 | 48,499 | 217,713 | ------ | 143,942 | 494,603 R |
| 1984 | 42,641 | 38,242 | 20,980 | 53,477 | 225,010 | ------ | 112,770 | 493,120 R |
| 1985 | 33,899 | 41,925 | 28,992 | 54,127 | 227,691 | ------ | 108,697 | 495,331 |
| 1986 | 40,408 | 46,021 | 28,957 | 57,549 | 212,778 | ------ | 122,189 | 507,902 |

(1) Factory Cheese value includes net increase in processing.
(2) Fiscal year from 1976 forward.
R Revised Statistics

TABLE VII The Production and Value of Ice Cream

| Year | Production '000 | Price | Value $ '000 |
|---|---|---|---|
| 1955 | 2,716 gal | 1.60/gal | 4,346 |
| 1960 | 3,623 gal | 1.63/gal | 5,905 |
| 1965 | 5,242 gal | 1.26/gal | 6,605 |
| 1970 | 5,634 gal | 1.73/gal | 9,747 |
| 1973 | 6,332 gal | 1.97/gal | 12,474 |
| 1974 | 6,588 gal | 2.26/gal | 14,889 |
| 1975 | 6,671 gal | 2.64/gal | 17,611 |
| 1976 fiscal | 6,713 gal | 2.75/gal | 18,461 |
| 1977 fiscal | 6,835 gal | 2.75/gal | 18,796 |
| 1978 fiscal | 31,859 L | 0.631/L | 20,107 |
| 1979 fiscal | 30,343 L | 0.659/L | 19,996 |
| 1980 fiscal | 31,906 L | 0.990/L | 31,587 |
| 1981 fiscal | 27,873 L | 1.240/L | 34,563 |
| 1982 fiscal | 27,797 L | 1.380/L | 38,360 |
| 1983 fiscal | 30,891 L | 1.570/L | 48,499 |
| 1984 fiscal | 31,457 L | 1.700/L | 53,477 |
| 1985 fiscal | 31,287 L | 1.730/L | 54,127 |
| 1986 fiscal | 31,108 L | 1.850/L | 57,549 |

TABLE VIII The Production and Value of Creamery Butter

| Year | Creameries | Production '000 | Av. Output Per Creamery '000 | Selling Value Total $ '000 | Cents |
|---|---|---|---|---|---|
| 1955 | 89 | 31,326 lb. | 352 lb. | 18,041 | 57.59/lb. |
| 1960 | 86 | 37,338 lb. | 434 lb. | 23,265 | 62.31/lb. |
| 1965 | 80 | 36,562 lb. | 457 lb. | 19,641 | 53.72/lb. |
| 1970 | 56 | 29,311 lb. | 523 lb. | 19,987 | 68.19/lb. |
| 1973 | 46 | 23,282 lb. | 506 lb. | 17,550 | 75.38/lb. |
| 1974 | 33 | 18,695 lb. | 567 lb. | 16,538 | 88.46/lb. |
| 1975 | 31 | 20,587 lb. | 664 lb. | 23,895 | 116.07/lb. |
| 1976 fiscal | 22 | 17,843 lb. | 811 lb. | 20,921 | 117.25/lb. |
| 1977 fiscal | 20 | 18,342 lb. | 917 lb. | 23,799 | 129.75/lb. |
| 1978 fiscal | 19 | 6,946 kg | 366 kg | 21,049 | 303.03/kg |
| 1979 fiscal | 17 | 7,117 kg | 419 kg | 23,821 | 334.71/kg |
| 1980 fiscal | 16 | 7,863 kg | 491 kg | 27,992 | 356.00/kg |
| 1981 fiscal | 13 | 8,260 kg | 635 kg | 35,435 | 429.00/kg |
| 1982 fiscal | 13 | 8,475 kg | 652 kg | 40,358 | 476.20/kg |
| 1983 fiscal | 13 | 7,800 kg | 600 kg | 40,014 | 513.00/kg |
| 1984 fiscal | 11 | 8,161 kg | 742 kg | 42,641 | 522.50/kg |
| 1985 fiscal | 11 | 6,372 kg | 579 kg | 33,899 | 532.00/kg |
| 1986 fiscal | 11 | 7,409 kg | 674 kg | 40,408 | 545.40/kg |

TABLE IX The Production and Value of Cheddar and Variety Cheeses

| Year | Factories C | Factories V | Production '000 C | Production '000 V | Av. Output Per Factory '000 C | Av. Output Per Factory '000 V | Selling Value Total $ '000 C | Selling Value Total $ '000 V | Selling Value Cents C | Selling Value Cents V |
|---|---|---|---|---|---|---|---|---|---|---|
| 1950 | 14 | | 2,940 lb. | | 210 lb. | | 1,030 | | 35.05 | /lb. |
| 1955 | 10 | | 2,151 lb. | | 215 lb. | | 694 | | 32.25 | /lb. |
| 1960 | 7 | | 1,760 lb. | | 261 lb. | | 671 | | 39.55 | /lb. |
| 1965 | 6 | | 2,188 lb. | | 365 lb. | | 882 | | 40.31 | /lb. |
| 1970 | 6 | 3 | 3,357 | 155 lb. | 560 | 52 lb. | 1,750 | --- | 52.13 | --- /lb. |
| 1973 | 7 | 4 | 4,768 | 913 lb. | 681 | 228 lb. | 3,456 | --- | 72.48 | --- /lb. |
| 1974 | 6 | 6 | 4,884 | 2,186 lb. | 814 | 365 lb. | 4,820 | --- | 98.69 | --- /lb. |
| 1975 | 7 | 6 | 6,307 | 2,406 lb. | 901 | 401 lb. | 7,914 | 2,296 | 113.35 | 95.43/lb. |
| 1976* | 7 | 6 | 6,872 | 3,161 lb. | 982 | 510 lb. | 7,693 | 3,193 | 111.95 | 101.02/lb. |
| 1977 | 6 | 6 | 8,013 | 4,557 lb. | 1,335 | 759 lb. | 9,604 | 5,462 | 119.86 | 119.86/lb. |
| 1978 | 6 | 8 | 3,935 | 2,386 kg | 656 | 298 kg | 11,063 | 6,708 | 281.14 | 281.14/kg |
| 1979 | 6 | 11 | 3,649 | 3,007 kg | 608 | 273 kg | 11,056 | 9,111 | 302.99 | 302.99/kg |
| 1980 | 6 | 11 | 3,921 | 3,159 kg | 654 | 287 kg | 15,135 | 12,194 | 308.60 | 308.60/kg |
| 1981 | 6 | 11 | 3,599 | 3,321 kg | 600 | 302 kg | 18,369 | 14,563 | 510.40 | 438.52/kg |
| 1982 | 6 | 10 | 4,023 | 3,651 kg | 671 | 365 kg | 24,259 | 18,554 | 603.00 | 508.18/kg |
| 1983 | 6 | 10 | 4,160 | 3,533 kg | 693 | 353 kg | 26,487 | 21,820 | 636.71 | 508.00/kg |
| 1984 | 6 | 10 | 5,768 | 3,787 kg | 961 | 379 kg | 38,242 | 20,980 | 663.00 | 554.00/kg |
| 1985 | 6 | 10 | 6,315 | 5,220 kg | 1052 | 522 kg | 41,925 | 28,992 | 663.90 | 555.40/kg |
| 1986 | 6 | 10 | 6,822 | 5,022 kg | 1137 | 502 kg | 46,021 | 28,957 | 674.60 | 576.60/kg |

*Fiscal year from 1976 forward.

TABLE X Butterfat Received as Cream on a Monthly Basis

| | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 |
|---|---|---|---|---|---|---|
| | Percentage Change from Previous Year | | | | | |
| April | -18.00 | - 4.35 | -27.31 | -10.01 | -7.97 | -13.86 |
| May | -23.16 | -12.55 | -17.15 | - 9.83 | -14.05 | -12.31 |
| June | -11.30 | -15.20 | -25.08 | -10.91 | -19.96 | - 3.36 |
| July | -17.58 | -14.20 | -35.69 | + 6.87 | -17.98 | - 8.28 |
| August | -19.45 | - 4.39 | -16.09 | -14.07 | -18.86 | -16.92 |
| September | -19.85 | - 7.71 | -17.21 | -22.70 | -14.92 | - 4.64 |
| October | -16.93 | -10.16 | -21.48 | - 8.71 | -21.68 | - 9.66 |
| November | - 4.93 | - 6.75 | -22.29 | - 8.70 | -27.67 | -10.38 |
| December | - 6.81 | -16.47 | -15.38 | -15.85 | -17.79 | - 5.48 |
| January | - 9.81 | -13.09 | -11.72 | -10.66 | -19.82 | -13.93 |
| February | - 9.43 | -15.76 | -11.37 | -11.20 | -19.83 | -11.53 |
| March | - 6.17 | -18.63 | -12.39 | -19.32 | -17.53 | - 2.65 |
| Total Year | -15.11 | -11.37 | -20.84 | -11.17 | -17.90 | - 9.56 |

TABLE XI Milk Cow Numbers and Average Production

| Year | No. Cows June 1st | Average Milk | Production Butterfat |
|---|---|---|---|
| 1950 | 297,800 | 4,617 lb. | 166.2 lb. |
| 1955 | 285,000 | 5,044 lb. | 176.5 lb.* |
| 1960 | 279,000 | 5,915 lb. | 207.0 lb. |
| 1965 | 262,000 | 6,264 lb. | 219.2 lb. |
| 1970 | 198,000 | 7,721 lb. | 270.2 lb. |
| 1973 | 169,000 | 8,265 lb. | 289.3 lb. |
| 1974 | 169,000 | 7,595 lb. | 265.8 lb. |
| 1975 | 170,000 | 7,507 lb. | 262.7 lb. |
| 1976 | 152,000 | 8,376 lb. | 293.2 lb. |
| 1977 | 155,000 | 8,072 lb. | 282.5 lb. |
| 1978 | 148,000 | 2,878 L | 103.6 kg |
| 1979 | 135,000 | 3,333 L | 119.9 kg |
| 1980 | 138,000 | 3,478 L | 125.2 kg |
| 1981 | 142,000** | 3,718 L | 133.8 kg |
| 1982 | 158,000** | 3,450 L | 124.2 kg |
| 1983 | 157,000** | 3,592 L | 129.3 kg |
| 1984 | 157,000** | 3,720 L | 133.9 kg |
| 1985 | 150,000** | 3,748 L | 134.9 kg |
| 1986 | 152,000** | 3,811 L | 137.2 kg |

* From 1955 forward, average butterfat test 3.5%; previous years were 3.6%.
** Census figure as of January 1 of that year.

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Alberta Margarine Statistics as reported by Bureau of Statistics, Alberta Department of Industry & Commerce, are no longer available.

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Estimated value of selected products (expressed in Millions) for the 1986-1987 fiscal year:

| | |
|---|---|
| Butter | $ 40.4 |
| Cheddar Cheese | 46.0 |
| Cheese Other than Cheddar | 28.9 |
| Fluid Milk | 169.9 |
| Other Fluid Products | 42.8 |
| Ice Cream | 57.5 |
| Miscellaneous - Concentrated and Powdered Milk, Cottage Cheese, Yoghurt, etc. | 122.1 |

# HORSE INDUSTRY BRANCH

## Industry Overview

Interest in horse-related sport and recreational activities remains strong despite further decreases in mares being bred. High levels of participation are reported for activities such as attendance at racetracks, showing, rodeos, trail riding, 4-H, pony club, gymkhana and pleasure riding.

Select Breed Sales

| (Average Price $) | 1982 | 1983 | 1984 | 1985 | 1986 |
|---|---|---|---|---|---|
| Thoroughbred Yearling | 9752 | 6054 | 5707 | 6823 | 6254 |
| Standardbred Yearling | 7674 | 5627 | 2292 | 1845 | 3032 |
| Quarter Horse | 3020 | 2598 | 1497 | 1202 | 1261 |

During 1986, horse breeders endured another year of low prices, but this was offset somewhat by low feed prices. Provincial government support programs such as the feed grain market adjustment programs continued to reduce input costs.

In excess of 20 million pounds of horsemeat is processed annually by Alberta plants. One plant, Century Packers, ceased operation during 1986, but had no influence on demand or prices. The product is shipped to Europe and Japan by air in fresh or frozen form for human consumption. During the past year, prices for live horses remained in the 35 to 40 cents per pound range. Because only two companies buy and sell horsemeat in Alberta, detailed statistical information is not published.

Considerable public concern remains regarding the humane transportation and treatment of horses for slaughter.

Education/Advisory Services

The branch, with a permanent staff of three professionals, provides educational and advisory services to horse owners in all areas of the province. The branch has a large and varied clientele which can be divided into primary producers who raise and market horses, and horse owners who purchase and use horses for sport and recreation. Although priority is given to the agricultural segment of the industry, considerable effort is given to providing all horse owners with information on general care and management of horses, as a large percentage of these people have limited background with livestock.

Extension programs consisted of conducting or supporting approximately 40 short courses throughout the province, as well as providing speakers for programs conducted by colleges and organizations.

The branch prepared technical articles and bulletins for distribution, and staff was available as resource people for colleges, veterinarians, district agriculturists, private and public loans officers and other Alberta Agriculture staff relative to horses and the horse industry.

In 1986, the branch contracted the production of a film on "Horse Safety". Because more accidents are associated with the horse than any other farm animal, a film showing safe handling and riding techniques was made for use by clubs and organizations.

Another highlight was the Alberta Horse Breeders Conference that was conducted in cooperation with four participating breed associations. Over 225 people registered for the program which included 15 highly qualified speakers.

Horse Improvement Program

The Horse Improvement Program is an annual breeders show designed to identify and recognize superior horses, breeders and trainers in Alberta. A committee consisting of representatives from participating breeds assists with the planning. The program continues to grow and develop more prestige and significance to the industry.

Fifty classes were available for the 14 participating breeds resulting in 711 horse being evaluated in 1986. Results are computerized allowing for breeders to use the program results to assist them in making selection and mating decisions. In some breeds, these are the only performance and production records available.

Summary of Horse Improvement Program Entries

| | 1983 | 1984 | 1985 | 1986 |
|---|---|---|---|---|
| American Saddlebred | 13 | 15 | 15 | 23 |
| Arabian | 98 | 81 | 79 | 92 |
| Appaloosa | 65 | 73 | 62 | 75 |
| Belgian | 19 | 31 | 31 | 24 |
| Clydesdale | 15 | 27 | 25 | 27 |
| Morgan | 27 | 16 | 37 | 33 |
| Paint | 23 | 23 | 29 | 30 |
| Partbred Arabian | 24 | 24 | 20 | 18 |
| Percheron | 16 | 21 | 27 | 34 |
| Pinto | 26 | 22 | 32 | 30 |
| Quarter Horse | 71 | 109 | 99 | 83 |
| Sport Horse | 26 | 35 | 25 | 23 |
| Walkers | 11 | 17 | 16 | 20 |
| Welsh Pony | 21 | 18 | 15 | 19 |
| Total Entries | 455 | 534 | 512 | 531 |
| Total Horses | 603 | 704 | 666 | 711 |

The draft horse section of the program was held during the Calgary Stampede and the light horse section was held during the last two weekends in September at the Westerner Fairgrounds in Red Deer.

## Travel Assistance

Travel assistance was available to Alberta breeders who have horses that qualify for and participate in recognized breed sponsored national or international championship competitions held outside Alberta. During 1986, travel assistance of $22,350 was paid on behalf of 59 horses representing 7 breeds.

### Travel Assistance Participation

| | 1983 | 1984 | 1985 | 1986 |
|---|---|---|---|---|
| Canadian Arabian Championship | 6 | N/A | 3 | N/A |
| Canadian National Appaloosa | 6 | 18 | N/A | 28 |
| U.S. Arabian Championship | 4 | 3 | 10 | 3 |
| Quarter Horse World Championship | 7 | 7 | 12 | 7 |
| U.S. Morgan Horse Championship | - | - | 2 | 3 |
| U.S. National Peruvian Paso Show | 5 | 6 | 4 | 3 |
| World Percheron Congress | - | - | - | 14 |
| U.S. Miniature National Show | - | - | - | 1 |

## Stallion Fertility Evaluation

Horse breeders can, through a referral by a veterinarian, have a fertility evaluation of stallions conducted by the branch in cooperation with Olds College. In 1986, 16 stallions were tested.

## Market Development Assistance

The branch assists in administering Market Development grants of up to $25,000 for provincial horse breed associations.

During 1986-87, nine breed associations were provided grants totalling $77,358. Projects supported include establishing breeders sales, printing brochures, incentives for successful Alberta-bred horses, provincial futurities, participation at trade fairs and general promotion and advertising.

In cooperation with Market Development and Agri-food, branch staff coordinated the participation of 13 Alberta breeds at Equi-Fair held at Spruce Meadows during the "Masters" horse show. The project involved a large horse exhibit, seminars and demonstrations.

The market for western horses from Alberta is increasing throughout Europe as many riders desire horses that are different and easy to ride and handle. The branch continues to advise breed associations and assist in coordinating exports.

Medication Control

As a service to provincial organizations, the branch conducts drug testing at main horse shows. During 1986, 432 horses were tested during 25 days of testing, with no forbidden products being detected. The program continues to foster fair competitions and is appreciated by the horse public and associations.

Summary of Testing

| | 1982 | 1983 | 1984 | 1985 | 1986 |
|---|---|---|---|---|---|
| No. of shows tested | 16 | 20 | 17 | 21 | 21 |
| No. of days tested | 28 | 31 | 31 | 31 | 25 |
| No. of horses tested | 341 | 268 | 390 | 390 | 432 |
| No. of blood samples | 96 | 60 | 98 | 93 | 125 |
| No. of urine samples | 236 | 196 | 283 | 288 | 307 |
| No. of positive tests | 0 | 1 | 2 | 1 | 0 |

Research

The branch conducted a horse nutrition research project at Lakeside Research in Brooks in which the growth of young horses related to addition of vitamins, minerals and protein to a base ration was evaluated. Equine research in the areas of reproduction, nutrition and health care were supported at the Western College of Veterinary Medicine.

Branch staff participated in hosting the IV International Symposium on Equine Reproduction at the University of Calgary. Researchers from throughout the world were present.

## PORK INDUSTRY BRANCH

The 1986 farm cash receipts from sale of hogs in Alberta were estimated as 272 million dollars, up 26 million from 1985. Total number of pigs produced for slaughter in Alberta declined by 7.6% from 1985, and the annual average prices rose to $81.38 in Alberta from $68.51 in 1985. As a percentage of total farm cash receipts, income from hogs rose from 6.4% in 1985 to 7.1% in 1986 in Alberta. Net exports of pork for Canada rose by 9% and exports of livestock fell by 60% in 1986 compared to 1985. For Canada, 490 million pounds of pork were exported (after deducting imports) and 403,000 live pigs were exported in 1986. The live hogs and pork exports constitute about 31% of Canada's total production, as in 1985. Live hog exports from Alberta were estimated as 92,000 or 4.8% of production. Most of Canada's pork exports (86%) and almost all of the live hogs exports went to the U.S. Because of health restrictions, few live hogs are imported into Canada.

The number of active hog producers in Alberta in 1986 was 6,000. The number of hogs marketed in 1986 were 1,935,071, an average of 322 per producer. On April 1, 1986 the Alberta breeding herd was reported to be 156,500 and on April 1, 1987 it was reported to be 156,500. Total pigs on farms April 1, 1987 was reported as 1,470,000, 1.4% above the year previous.

Alberta's share of Canada's hog numbers was 13.5% in 1986 as compared to 14.1% in 1985. This loss of share went to Quebec and Manitoba.

Hog prices were some $12.87 per cwt above that of the year previous on the average and ranged from $62.13 (April 25) to $98.63 (August 29) in 1986 as weekly averages. The range in weekly averages was $36.50 in 1986 compared to $9.59 in 1985. The Alberta average price in 1986 was $3.50 below that of Toronto, and in 1985 this spread was $3.20 per cwt.

Weekly hog sales in Alberta by the marketing board ranged from over 40,000 in January to about 30,500 in June in 1986. A strike by employees of Gainer's and Fletcher's Fine Foods disrupted the flow of hogs and led to larger out of province sales.

The national tripartite stabilization program scheme for hogs provided protection from low prices to producers during the year. The following is a summary of the program by quarter:

| QUARTER | PRODUCER PREMIUMS | NAT. AVERAGE PRICE | | NAT. AVERAGE CASH COSTS | | SUPPORT* LEVEL | | PAYOUTS |
|---|---|---|---|---|---|---|---|---|
| | $ PER HOG | $/CKG | $/CWT | $/CKG | $/CWT | $/CKG | $/CWT | |
| Q1, 1986 | None | 152.51 | 69.18 | 105.65 | 47.92 | 147.64 | 66.97 | None |
| Q2 | None | 159.54 | 72.37 | 106.62 | 48.36 | 150.12 | 68.09 | None |
| Q3 | 2.90 | 212.88 | 96.56 | 106.02 | 48.09 | 159.59 | 72.39 | None |
| Q4 | 2.90 | 193.19 | 87.63 | 103.24 | 46.83 | 143.72 | 65.19 | None |
| Q1, 1987 | 3.70 | 159.65 | 72.50 | 96.04 | 43.56 | 140.97 | 63.94 | None |

* 1986 Support level = national average cash costs plus 95% of the average difference between the national average price and national average cash costs in the same quarter for the past 5 years (i.e. 1981 through 1985).

* 1987 Support level is calculated similarly except that 94% is used instead of 95%, and cash costs are estimated using an updated production cost model.

At year's end, 2,732 producers were enrolled, slightly less than 50% of Alberta's producers and hog registrations were 1,196,000 from July 1, 1986 to March 31, 1987, about 78% of Alberta's total or 438 hogs per producer for the three quarters. Registration and premium payment was not required for the January 1 to June 30 period because enrolment commenced in early June and was due June 27, 1986. Premiums would have been due only if a payout was made, and would have been deducted as $2.90 per hog from such a payout. Premium payments by producers have totalled about $3.8 million to March 31, and the national fund received over $11 million in premiums for Alberta hogs including the federal and provincial shares. Nationally, about 12,000 hog producers enrolled with 74% of the eligible hog production of the enrolled provinces, namely Ontario, Manitoba, Saskatchewan and Alberta.

The Swine Artificial Insemination Program continued to grow in 1986-87, in spite of an interruption of semen sales for six weeks in April and May 1986 due to the appearance of blood titres for Leptospirosis icterohemorrhagae among boars at the A.I. centre. Sales of fresh semen were made to 294 customers (same as 1985-85) and volume rose by 15.8% compared to 1985-86. Table I illustrates the distribution of sales by province and by number of doses (inseminations) purchased.

TABLE I
FRESH SEMEN SALES DISTRIBUTION APRIL 1, 1985 TO MARCH 31, 1986

| | TOTAL PURCHASERS | TOTAL # DOSES PURCHASED | USERS AND DOSES BY USE CATEGORY 1-25 USERS | DOSES | 26-50 USERS | DOSES | 51-100 USERS | DOSES | 100+ USERS | DOSES |
|---|---|---|---|---|---|---|---|---|---|---|
| B.C. | 65 | 2,257 | 48 | 289 | 8 | 272 | 4 | 320 | 5 | 1,376 |
| ALTA. | 185 | 3,745 | 150 | 1,050 | 19 | 708 | 11 | 733 | 5 | 1,254 |
| SASK. | 25 | 269 | 22 | 103 | 2 | 69 | 1 | 97 | | |
| MAN. | 18 | 220 | 16 | 109 | 1 | 46 | 1 | 65 | | |
| NFDL. | 1 | 118 | | | | | | | 1 | 118 |
| TOTAL 86-87 | 294 | 6,609 | 236 | 1,551 | 30 | 1,095 | 17 | 1,215 | 11 | 2,748 |
| 85-86 | 293 | 5,706 | 234 | 1,668 | 35 | 1,204 | 15 | 1,135 | 9 | 1,663 |
| 84-85 | 290 | 5,164 | 227 | 1,664 | 35 | 1,166 | 23 | 1,235 | 5 | 1,069 |

This year, 181 doses of frozen semen were sold for export. At the close of the year, frozen semen was being processed to fill orders for Australia and New Zealand.

Reproductive performance from breedings with fresh semen continued to compare favorably with natural service with a 76% farrowing rate and 10.25 live piglets born per litter recorded on average for A.I.

During the year, 17 boars were removed from service for a variety of reasons, including loss of physical soundness, insufficient semen quality and, in two cases, unsatisfactory performance of progeny. Seventeen (17) new boars were purchased, eight of which Agriculture Canada paid for through its Sire Loan Policy. The year end inventory consisted of 8 Yorkshire, 7 Landrace, 3 Lacombe, 4 Hampshire and 3 Duroc sires.

Considerable attention was focused on the elimination of a Leptospirosis problem which was identified early in the year. A re-evaluation of current protocol and entry requirements for boars to artificial insemination service was undertaken with Agriculture Canada Animal Health authorities. The protocol with respect to Leptospirosis tests for boars remains unclear.

During the year, 17 swine A.I. short courses were given across Western Canada. Attendance per course averaged 18 people. Numerous calls were made to demonstrate A.I. techniques and to provide advice on sow management to improve reproductive performance of sows. Enthusiasm for artificial breeding of sows is strong as illustrated by the fact that fresh semen sales for the first quarter of 1987 exceeded 1986 first quarter sales by 55%.

The Swine A.I. Advisory Committee met in November. A new semen price schedule was recommended and the committee also agreed to cost cutting measures related to frozen semen. The advisory committee restated the need for more input into sales promotion, customer education and on-farm follow-up.

The processing of sales records and field data and all invoicing is now computerized. Several reports useful for management decision making can also now be generated. Current emphasis is on acquisition of sufficient quality sires to meet the increasing semen demand.

The Alberta Swine Improvement Program, formerly the Swine Record of Performance (ROP) Program served 71 hog producers directly by testing 17,112 potential breeding animals on farms. In addition, 638 boars were tested in the two Alberta test stations at Leduc and

Lacombe, owned and operated by Agriculture Canada. The total number tested, 17,750, is a slight reduction (about 6%) from the previous year.

The main thrust of the program continues to be the identification of leaner and faster growing breeding stock for the seedstock and commercial hog industry. In addition, the computerized sow productivity program was actively promoted to program users and commercial producers with 32 herds participating compared to 10 last year. The federal government published two issues of Estimated Breeding Values for sires and dams (EBV's) and Herd Activity Monitors (HAM's). EBV's are a statistical technique to separate the genetic from the environmental influences in an animal's or herd's performance traits. Sire EBV information was incorporated into the Alberta bi-monthly Home Test Report.

Halothane testing has continued to identify genetically stress susceptible boars at the test station. Out of 638 boars tested on entering the stations, only two reacted positively to the test.

The Alberta Swine Breeders Association (ASBA) sponsored monthly sales of the boars rated as above average for performance which were physically sound, after the completion of each station test group. In total, 220 boars were sold for $110,485. In addition, ASBA sold three export orders of farm selected pigs. There were two groups of 54 and 7 head to Japan, and one of 40 head to the Phillipines sold for a total of $42,800.

TABLE II

ALBERTA SWINE IMPROVEMENT PROGRAM
PERFORMANCE TESTING SUMMARY
1982 - 1986

| Boars Station Tested | 1982 | 1983 | 1984 | 1985 | 1986 |
|---|---|---|---|---|---|
| Number | 872 | 780 | 872 | 794 | 638 |
| Avg. Backfat thickness (mm) | 15.3 | 15.2 | 14.0 | 14.5 | 14.4 |
| Avg. daily gain (kg) | 0.92 | 0.93 | 0.91 | 0.92 | 0.91 |
| Avg. feed conversion | 2.43 | 2.46 | 2.45 | 2.41 | 2.48 |
| Avg. age to 90 kg. (days) | 147 | 148 | 144 | 145 | 144 |
| **Boars Home Tested** | | | | | |
| Number | 4,750 | 5,851 | 6,164 | 5,641 | 5,461 |
| Avg. backfat thickness (mm) | 13.9 | 13.9 | 14.1 | 14.3 | 13.8 |
| Avg. age to 90 kg. (days) | 162 | 159 | 157 | 157 | 155 |
| TOTAL BOARS TESTED | 5,622 | 6,631 | 7,036 | 6,435 | 6,035 |
| **Gilts Home Tested** | | | | | |
| Number | 10,990 | 11,809 | 12,004 | 12,474 | 11,651 |
| Avg. backfat thickness (mm) | 15.2 | 14.8 | 15.4 | 15.6 | 15.2 |
| Avg. age to 90 kg. (days) | 172 | 167 | 171 | 169 | 167 |
| TOTAL PIGS TESTED | 16,612 | 18,440 | 19,040 | 18,909 | 17,750 |

TABLE III

HOME TESTED BOARS - BY BREED

| | 1986 | | | 1985 | | |
|---|---|---|---|---|---|---|
| BREED | NUMBER TESTED | AVERAGE BACKFAT @ 90 kg (mm) | AVERAGE AGE @ 90 kg (days) | NUMBER TESTED | AVERAGE BACKFAT @ 90 kg (mm) | AVERAGE AGE @ 90 kg (days) |
| Yorkshire | 1830 | 13.7 | 156 | 1875 | 14.1 | 159 |
| Landrace | 685 | 14.3 | 153 | 660 | 14.7 | 156 |
| Lacombe | 349 | 14.1 | 157 | 460 | 14.9 | 162 |
| Hampshire | 300 | 13.2 | 164 | 215 | 13.2 | 169 |
| Duroc | 233 | 14.3 | 160 | 212 | 13.8 | 157 |
| Crossbred | 2064 | 13.7 | 153 | 2219 | 14.4 | 154 |
| TOTAL: | 5461 | 13.8 | 155 | 5641 | 14.3 | 157 |

TABLE IV

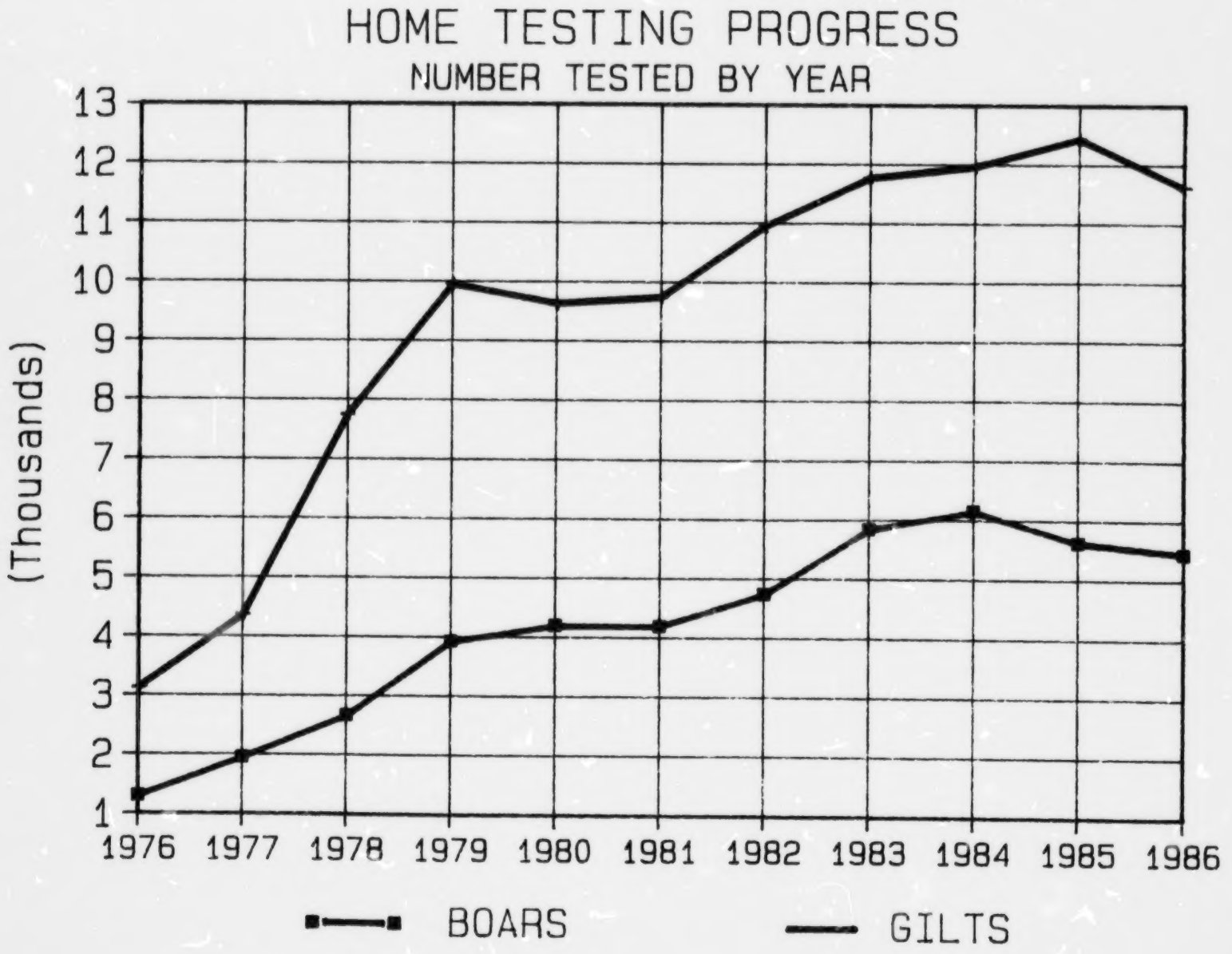
HOME TESTED GILTS - BY BREED

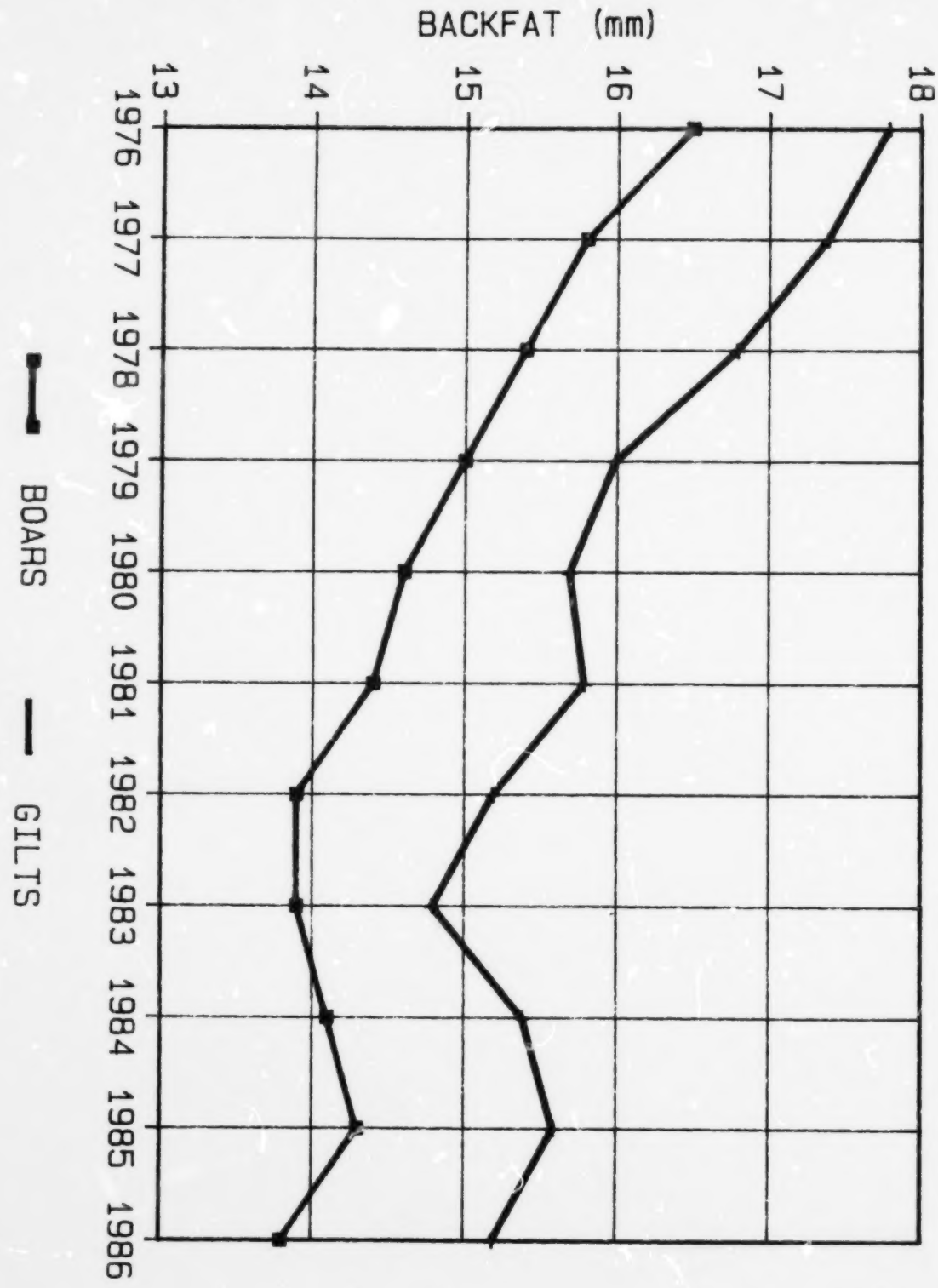
| | 1986 | | | 1985 | | |
|---|---|---|---|---|---|---|
| BREED | NUMBER TESTED | AVERAGE BACKFAT @ 90 kg (mm) | AVERAGE AGE @ 90 kg (days) | NUMBER TESTED | AVERAGE BACKFAT @ 90 kg (mm) | AVERAGE AGE @ 90 kg (days) |
| Yorkshire | 2762 | 14.9 | 164 | 3195 | 15.4 | 167 |
| Landrace | 1002 | 16.0 | 158 | 1091 | 15.5 | 162 |
| Lacombe | 409 | 15.5 | 167 | 614 | 15.8 | 168 |
| Hampshire | 332 | 13.9 | 173 | 252 | 14.0 | 172 |
| Duroc | 178 | 15.5 | 160 | 212 | 15.2 | 159 |
| Crossbred | 6968 | 15.2 | 169 | 7110 | 15.8 | 172 |
| TOTAL | 11651 | 15.2 | 167 | 12,474 | 15.6 | 169 |

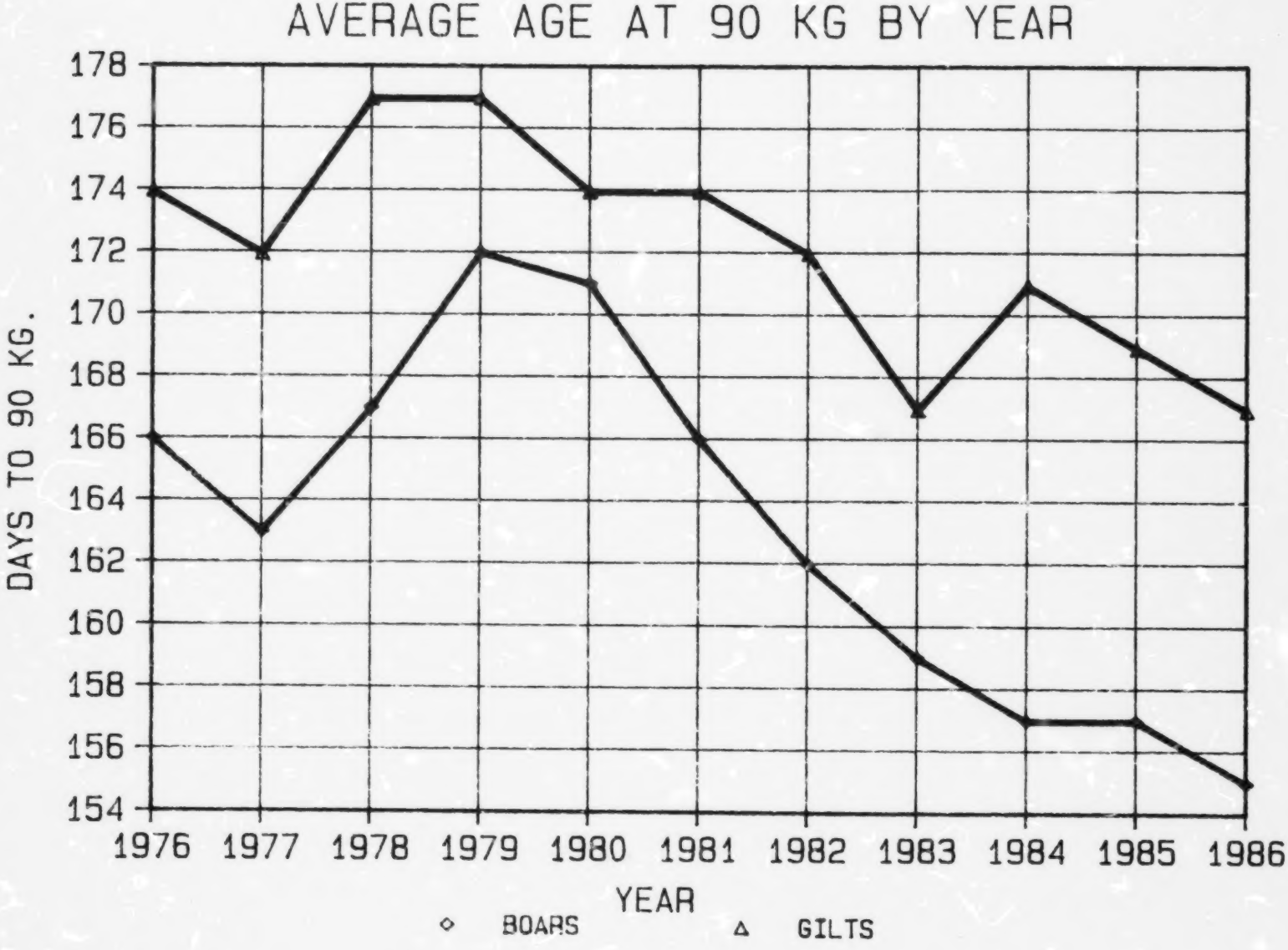
TABLE V

SOW PRODUCTIVITY AND MANAGEMENT PROGRAM
32 Active Herds

| | YORKS | LAND | LAC | HAMP | DUROC | REDS | COMM | TOTAL |
|---|---|---|---|---|---|---|---|---|
| Litters Weaned | 803 | 388 | 185 | 62 | 11 | 5 | 3,207 | 4,661 |
| Pigs Weaned | 7,169 | 3,504 | 1,658 | 526 | 98 | 35 | 28,890 | 41,880 |
| Services/Farrowing | 1.1 | 1.1 | 1.0 | 1.0 | 1.1 | 1.4 | 1.1 | 1.1 |
| Farrowing Interval (Days) | 162 | 157 | 160 | 155 | 156 | 193 | 156 | 157 |
| Weaning to Conception (Days) | 16.8 | 12.9 | 15.4 | 12.3 | 10.7 | 36.5 | 13.1 | 13.8 |
| Total Born | 11.1 | 10.6 | 10.9 | 9.5 | 9.8 | 10.2 | 10.9 | 10.9 |
| Born Live | 9.9 | 9.6 | 10.0 | 9.1 | 9.3 | 7.4 | 10.0 | 9.9 |
| Pre-Wean Mortality (%) | 11.8 | 12.3 | 12.5 | 13.4 | 5.8 | 5.4 | 11.2 | 11.5 |
| Pigs Weaned | 8.9 | 9.0 | 9.0 | 8.5 | 8.9 | 7.0 | 9.0 | 9.0 |
| Litter/Sow/Year | 2.3 | 2.3 | 2.3 | 2.4 | 2.3 | 1.9 | 2.3 | 2.3 |
| Pigs Weaned Per Sow Per Year | 20.5 | 20.8 | 20.6 | 20.4 | 20.5 | 13.3 | 20.7 | 20.7 |
| Kg of Pigs at 21 Days Per Sow Per Year | 115.8 | 124.6 | N/A | 125.7 | 111.2 | 90.2 | 123.2 | 122.5 |


HOME TESTING PROGRESS
NUMBER TESTED BY YEAR
(Thousands)
13
12
11
10
9
8
7
6
5
4
3
2
1
1976
1977
1978
1979
1980
1981
1982
1983
1984
1985
1986
BOARS
GILTS


AVERAGE BACKFAT OF PIGS BY YEAR
BACKFAT (mm)
18
17
16
15
14
13
1976 1977 1978 1979 1980 1981 1982 1983 1984 1985 1986
BOARS
GILTS


AVERAGE AGE AT 90 KG BY YEAR
DAYS TO 90 KG.
178
176
174
172
170
168
166
164
162
160
158
156
154
1976
1977
1978
1979
1980
1981
1982
1983
1984
1985
1986
YEAR
◇ BOARS
△ GILTS

The Pork Industry Branch assisted Alberta's pork producers in several other ways. The Pork Production Handbook was distributed to over 1,500 producers and interested parties on request. The Alberta Swine Record System was used by over 500 producers. A research review column written by Branch staff appeared in the quarterly Western Hog Journal, with a circulation of about 40,000. The Pork Production Home Study Course was distributed on request, and the original printing of 2,000 was entirely depleted. Staff have almost finalized the rewrite of this course. Staff have served as resource persons, helped organize numerous local extension meetings, seminar and series courses throughout the province. They were involved in the planning and staging of the Alberta Pork Seminar (170 attending), the Alberta Pork Congress (about 3,000 attending), four regional swine breeding seminars (175 attending), meetings of the Alberta Swine Breeders Association, the Western Hog Growers Association, the Southern Alberta Hog Producers Association and the Alberta Pork Producer's Marketing Board district and annual meetings.

The swine specialists with district agriculturists helped deliver the Pork Industry Branch's swine extension program. Many farm calls were recorded by specialists. These involved questions on financial planning, nutrition, engineering, herd health, breeding, servicing A.I. and R.O.P. programs, investigations for A.D.C., feed test results follow-up, ventilation problems, planning visits and work with local veterinarians, feed company personnel, swine building engineers, regional economists, local district agriculturists and others. Groups

of producers were brought together in production plus clubs; office interviews and telephone interviews were a means of communicating better production methodology.

Specific activities recorded by specialists included the following:

Lethbridge: The Swine Record Keeping Program for province-wide distribution was mailed on request. This program continues to be demanded and used by producers all over the province. Extension seminars were resourced and organized in Regions I and II. An agricultural Lenders Workshop was held. Office interviews and farm calls made up a large part of activity this year. Client telephone contacts, agribusiness contacts and department contacts continued as last year. The specialist served as a member of the regional Farming for the Future program review committee. Many consultant calls relating to agricultural lending were made. A computerized cash flow analysis program was updated and used in counselling. An in-service course in swine production was organized. A swine tour with producers to the U.K. was lead by the specialist.

Red Deer: Meetings were predominant in this year's activities, with 30 held. Three of note were the annual Green Certificate Nutrition Course, a Banker's Information Seminar and a Feed Mill Calibration Course. A short form user friendly cash flow program was developed and utilized by over 60 producers. Work continued on the On-the-Job Swine Worker Training Program with Olds College. The pork congress was reasonably well attended as the market price had just

started to show profits; the education program was well received. The Education Committee for the 1987 congress also occupied several days of planning in this year's activities.

Farm and agribusiness calls totalled 147 with more clients in office interviews than in previous years. The calls were related to production, health, barn design and financial questions.

Vermilion: From April 1, 1986 to March 31, 1987, 60 farm calls were carried out and 859 office interviews were conducted (client visiting or phoning the office). The number of office interviews more than doubled from the previous year. District seminars were held in St. Vincent (3), Vegreville, Innisfree, Vermilion, Lloydminster (2), Lamont (2) and at Ryley. Attendance at these were excellent. Also resourced a Provincial Basic Nutrition Course at Olds. The specialist was the guest speaker at a meeting put on by Shur Gain in Two Hills. Thirty six loan officers and/or bank managers attended an Agricultural Lenders Seminar in Vegreville which dealt entirely with hogs. Two A.I. short courses were carried out at the Lakeland College in Vermilion.

The nutrition chapter in the Home Study Course was updated by the specialist in cooperation with the monogastric nutritionist from Edmonton.

Two on-farm demonstrations have been completed. One dealt with comparing self-feeders versus drop feeders while the other one evaluated the use of hullless barley in pig starter rations. The specialist will be carrying out on-farm demonstration on handmating and on wet nursers in the upcoming year.

The PIGCHAMP computerized record keeping system was obtained from the University of Minnesota. The specialist is currently evaluating the program.

The Alberta Pork Seminar and the Pork Congress were well attended and the specialist helped at Pork Industry booth and chaired sessions at the congress.

During the past year, the specialist evaluated eleven AADC or FCC loan proposals. He also did a feasibility study for a new operation on the Keheewin Indian Reserve.

The specialist worked closely with the Green Certificate trainees and was a resource person at a Green Certificate Workshop.

He had many inquiries on buildings, rations, management, etc. He met with industry personnel throughout the year.

Barrhead: The swine specialist, with the regional livestock specialist and with the assistance of the regional food and nutrition specialist and the regional agricultural engineer, wrote and edited a series of eight monthly newsletters entitled "Beef'n'Bacon". This was mailed to approximately 2,500 swine and beef producers, among others. Response to this newsletter during its second year of publication has been excellent. Many follow-up contacts have been made as a direct result of articles appearing in Beef'n'Bacon.

The specialist wrote and edited a newsletter entitled "Pig Pointers" for swine producers in Region 6 which was mailed to approximately 300 swine producers, veterinarians, feed manufacturers, district offices, etc.

The specialist coordinated the "Research Reviews" column for the Western Hog Journal and wrote eight reviews on various topics for the column. A feature article was written for the Western Hog Journal entitled "On-Farm Trials Demonstrate Canola Meal Benefits".

The specialist assisted with the Swine Nutrition Course for Green Certificate trainees, the Alberta Pork Congress and the Alberta Pork Seminar. He conducted a series of five tripartite information meetings for swine producers. The U of A swine production class (Animal Science 470) was assisted with in-depth analysis of three local farms and other regional specialists were assisted in organizing a two day tour of farms and agriculture businesses in the region for Agriculture-Forestry 404 students. Sixteen extension meetings for local swine producers including three producer meetings in Region 6 were organized and resourced. Approximately 66 farm calls, 131 office interviews and 301 telephone calls to producers on all aspects of hog production, economics and management were conducted. ADF, FFC and other lending agencies were assisted in evaluating proposals for new and existing swine operations.

The specialist participated as a member of the Regional On-Farm Demonstration Review Committee and the Field Applications Computer Group. Other various related conferences, seminars and industry meetings were attended.

## NATIONAL TRIPARTITE STABILIZATION FOR RED MEATS

The National Tripartite Stabilization Program for Red Meats began in Alberta in July 1986 as a result of Alberta becoming a signatory to federal-provincial agreements for cattle, for hogs and for lambs. Other provinces entering the program included Ontario and Prince Edward Island for cattle; Saskatchewan, Manitoba and Ontario for hogs; and Saskatchewan, Ontario, Prince Edward Island and Nova Scotia for lambs. The agreement for cattle involved both a cow-calf plan and a slaughter cattle plan in this year, and made provision for a feeder cattle (backgrounder) plan. The program was designed to reduce loss of income to producers of red meats due to low market returns, without providing an incentive to overproduce. The plans are designed to pay the same level of support per unit of production, to be equally cost shared between the federal government, provincial government and the producer, to be voluntary with respect to producer enrolment, and to be actuarially sound over time, that is payments out from the program and premiums paid in are to be adjusted so that they will be equal over the term of the program.

Enrolment deadlines for existing producers were June 27, 1986 for the lamb and hog plans and July 15, 1986 for the cattle plans, with coverage on the program offered retroactively to January 1, 1986 for cattle and hog producers, and to December 1, 1985 for lamb producers. Enrolment results are summarized as follows:

| | ALBERTA ENROLMENT | | CANADA TOTALS | |
|---|---|---|---|---|
| PLAN | PRODUCERS | % OF PRODUCTION | PRODUCERS | % OF PRODUCTION |
| Cow-Calf | 4,073 | 20 | 5,734 | 18 |
| Sl. Cattle | 3,030 | 75 | 5,780 | 73 |
| Hogs | 2,732 | 77 | 11,959 | 73 |
| Lambs | 217 | 30 | 591 | 33 |

The slaughter cattle scheme will make a payment in any calendar quarter that the national average margin (national average price less national average cash costs of production) is less than 50 percent of this margin on average for the same quarter in the previous five years. Similarly, the slaughter hog scheme will make a payment in any quarter that the national average margin is less than 95 percent of the average margin for the past five years. The cow-calf (feeder calves) and lamb schemes are based on 10 year moving average prices indexed for inflation. For cow-calf producers, support payments are made for a calendar year if the national average calf price in a year is less than 85 percent of the indexed moving average price for calves in the previous 10 years. For lambs, support levels are calculated quarterly, and payments will be made in any quarter that the national average price of lambs is below 95 percent of the indexed moving average price for the same quarter of the previous 10 years.

Under the program, premiums are payable by producers, the federal government and the Alberta government. Premiums are adjusted to a level that will cover anticipated support payments.

Premiums paid by the end of the fiscal year include hog premiums for sales to the end of March 1987, slaughter cattle premiums for purchases to the end of February 1987 and lambs to the end of February 1987. The total number of livestock insured to the above dates include:

| CLASS OF STOCK | NUMBER INSURED | EFFECTIVE PERIOD |
|---|---|---|
| Beef Cows | 233,000 | April 1, 1986 inventory |
| Slaughter Cattle | 648,000 | July 1 inventory and purchases to February 28, 1987 |
| Slaughter Cattle | 217,000 | Sales April 1 to June 30, 1986 |
| Hogs | 1,196,000 | Sales July 1, 1986 to March 31, 1987 |
| Lambs | 23,000 | Lambs insured June 1, 1986 to February 28, 1987 |

The total cost for registration of the above indicated stock would be about $9.9 million to the enrolled producers, $11.3 million each to Alberta and to the Government of Canada. Additional premium costs were incurred as a result of a payout announced for slaughter cattle in the retroactive period of Quarter 2, 1986 (April 1 to June 30, 1986). This is the only payout declared during the fiscal year. Payments of $13.20 per head were made to 1,421 slaughter cattle producers for 217,458 eligible cattle, a total of $2,870,445.60 to Alberta producers. One half this amount was contributed as premiums by the Alberta government, and producer's premiums were not required as they were deducted from the payout.

The three national stabilization committees for cattle, hogs and lambs each met eight times in the fiscal year in May, June, July, August, October and November in 1986 and in January and March in 1987 to set premium rates, to review the cost models, to set levies and to plan for the proposed feeder cattle (backgrounder) plan. The administration of the program in Alberta was passed from the Pork Industry Branch to the Centralized Program Support group effective April 1, 1987.

| SCHEME | PERIOD | NATIONAL AVG. MARKET PRICE | SUPPORT LEVEL | PAYOUT | PER HEAD |
|---|---|---|---|---|---|
| Cow-Calf | 1986 | $100.46/cwt. | $85.10/cwt. | $0/cwt | 0 |
| Slaughter Cattle | 1986, Q1 | 71.99/cwt. | 71.42/cwt. | 0 | 0 |
| | Q2 | 70.09 | 74.40 | 4.30 | $13.20 (max) |
| | Q3 | 75.33 | 70.77 | 0 | 0 |
| | Q4 | 78.18 | 70.83 | 0 | 0 |
| | 1987, Q1 | 75.65 | 73.57 | 0 | 0 |
| Lambs | 1986, Q1 | 90.28/cwt. | 85.72/cwt. | 0 | 0 |
| | Q2 | 105.19 | 93.27 | 0 | 0 |
| | Q3 | 97.74 | 82.26 | 0 | 0 |
| | Q4 | 88.75 | 73.14 | 0 | 0 |
| | 1987, Q1 | 107.76 | 80.82 | 0 | 0 |
| Hogs | 1986, Q1 | 69.18/cwt. | 66.97/cwt | 0 | 0 |
| | Q2 | 72.37 | 68.10 | 0 | 0 |
| | Q3 | 96.56 | 72.34 | 0 | 0 |
| | Q4 | 87.63 | 65.19 | 0 | 0 |
| | 1987, Q1 | 72.42 | 63.94 | 0 | 0 |

## POULTRY BRANCH

### General Conditions

Nineteen eighty six was a relatively stable year for the poultry industry. The egg and turkey sectors continued to operate within a national agency.

The hatching egg sector is in the process of joining a newly formed national agency. The chicken board continues to operate under the chicken national agency (C.C.M.A.) guidelines, but do not have voting status as they are not members of the agency.

Feed grain prices took a sharp drop on August 1st. The corn embargo moved feed formulation for broilers, broiler breeders and turkey rations away from corn. Feed prices decreased up to 20% for some rations, but in some situations bird performance declined. Producer margins, in all sectors, established levels at or near industry high maximums. These excellent returns are being carried into 1987.

Both chicken and turkey boards have put quota base increases into motion. At least three new turkey and seven new chicken growers will commence production in 1987.

The move to make quotas saleable for the various poultry commodities progressed somewhat during the year. If and when quotas become readily saleable without property there will be some realignment within the industry.

The commercial egg producers levy of 9¢/doz. is used to run the Alberta Board, remove surplus, and promote eggs. There appears to be little hope for quota increases on the part of commercial egg producers (88%). It appears that increases in demand are being more than offset by increased rates of lay.

Broiler hatching egg producers, presently at 85% placements, look forward to increasing their placements to 95% of quota during early 1987.

Broiler Breeders

The National Agency for broiler hatching eggs was proclaimed November 27, 1986. Alberta has agreed to become a full "Signatory" to the plan.

Setting of hatching eggs in 1986 increased to 46.3 million eggs. During the year 98.51 percent of the eggs set for broiler production were produced in Alberta.

Hatching egg prices increased from 25½ per saleable chick hatched to 26½ in September. Average hatchability was 76.42 percent.

Eggs

The 1986 laying flock of 1,931,600 layers was 1,503,600 regulated and 428,000 unregulated layers. This number is the same as in 1985 as reported by the Alberta Egg Marketing Board.

The production of eggs from Alberta during this period was 38,124,000 dozen, the same as last year. The rate of lay is 21 dozen for hens in regulated, and 15.3 dozen for hens in unregulated flocks. The net movement of eggs into the province showed a decrease of 4.7% for a total of 8,905,000 dozen or 171,250 dozen per week to accommodate the market demand for Alberta. The opening of a new retail food chain in the Edmonton area in 1985 changed the marketing patterns of eggs and poultry products, and it is still taking some time before the Alberta trade adjusts.

The Canadian Egg Marketing Agency Buy Back Program saw 10.8% less eggs from Alberta in 1986; 4,222,320 dozen in 1985 compared to 3,765,975 dozen in 1986. The Alberta per capita consumption was 17.9 dozen.

The commercial egg marketings through registered egg stations were 34.56 mln dozen in 1986, the same as in 1985.

Broilers

Alberta's chicken production in 1986 was 39.7 mln Kg, 1.7 percent below production a year ago.

Broiler production at 35.5 mln Kg was down 2.2 percent from 1985. Roaster production was 2.2 mln Kg, down 5.4 percent, while cornish was up 12.8 percent, at 2.0 mln Kg.

Broiler production enjoyed a strong market throughout the year.

The Chicken Board implemented the first stage of a modern cost effective quota system whereby roaster and broiler quota are combined, thus allowing growers to reduce production costs by growing light and heavy birds in the same barns.

A change to fresh product for most retail stores has affected the method of handling chicken and the need for storage. More pressure has been placed on the processing industry to have product available on a regular basis.

Alberta chicken sales in our market area were adversely affected by decreased sales to British Columbia, product shipped into Alberta from other provinces, and imports of 40,000 pounds a week of fresh Alabama chicken shipped into Edmonton by Canadian Superstore.

The Alberta Chicken Producers Marketing Board voted once again not to join the National Chicken Agency, however, the Board did sign their fourth agreement with the Agency, which limited Alberta's marketing to 8.63% of the total Canadian allocation in 1986.

The Canadian per capita consumption registered a 3.9% increase in 1986 - 20.79 Kg. Growth in disappearance was hampered by limited

supplies and high prices. These limited supplies resulted from underutilization of production quota, and from imports during the summer months that were below year-earlier levels. A more aggressive domestic marketing plan will be pursued by the Canadian Chicken Marketing Agency in 1987.

Turkeys

Heavy breed production increased 6.9% to 7.0 mln Kg. Light breed production declined to 1.4 mln Kg; a decrease of 14.9 percent from 1985.

The movement of turkey into the province was up 23% to 1.77 mln Kg. Marketing figures indicate a significant increase in demand for heavy breed turkeys at the expense of light breed turkeys, because of increasing sales of fresh turkey parts (from hens) in a value added premium market.

Domestic production of turkeys in Canada showed an increase of 3.3% over 1985 levels.

Alberta's total turkey marketing allocation from the Canadian Turkey Marketing Agency for 1986 was 8,642,383 kilograms. Actual marketings were 9.8 mln Kg.

Alberta's per capita consumption of turkey meat was 4.57 Kg; 3.76 Kg for heavies and 0.81 Kg for lights.

Branch Programs

Administration - To develop and administer regulations, policies and programs relative to the industry under the Livestock and Livestock Products Act.

Poultry Branch programs were related to increasing poultry production improving efficiency, and thus farm income, and keeping poultry products competitive with other protein sources.

Research

The Department developed the Research Institute with the University of Alberta. The Poultry Branch was part of the Departmental team which developed the guidelines for the Poultry Research Chair and the selection of three qualified researchers to fill the positions at the University. Funding of $185,000 for poultry applied research, to be conducted at the University of Alberta poultry unit was provided from the Poultry Branch budget.

Poultry Health - To prevent and control poultry diseases, to safeguard public health.

All breeder flocks and hatcheries were monitored with emphasis on salmonella detection and reduction in cooperation with the Animal Health Division. This program is designed to increase agriculture production by reducing the number and kinds of disease producing organism in poultry and their environment with emphasis on salmonella, because of the public health significance of these organisms. This increased production has led to improved income for poultry producers of this province.

The poultry health program is broken down into a number of areas. These are:

1. Hatchery Sanitation Program (Fluff Sampling)

Chick fluff samples analyzed were 83 from the Lethbridge area; 230 from the Calgary area; and 301 from the Edmonton area. The number of chicken flocks represented by fluff samples totalled 1,274 indicating a monitoring sampling of 9.4 times for each approved hatchery supply flock. The turkey flock sampling totalled 47 indicating 8.0 fluff samples per flock.

The following table gives a complete summary of this program and lists the salmonella isolations which were found in the samples:

| Total Number of Tests | Salmonella Isolated |
|---|---|
| Chicks 614 | S. (not typed) 6 |
| Turkeys 47 | |
| TOTAL 661 | |

| % S. isolations (chickens) | 1982 | 1983 | 1984 | 1985 | 1986 |
|---|---|---|---|---|---|
| | 0.79(4) | 1.43(8) | 0.96(7) | 0.82(6) | 0.98(6) |

| % S. isolations (turkeys) | 1982 | 1983 | 1984 | 1985 | 1986 |
|---|---|---|---|---|---|
| | 10.43(3) | 2.38(1) | 6.38(3) | 2.50(1) | 0.00(0) |

2. Chicken Health Program

The Poultry Branch staff worked with all hatching egg shippers with special emphasis on individuals who had salmonella isolations. The following table gives the laboratory submissions for the year. The table shows the laboratory workloads for this program of the Animal Health Division and the activities of the Poultry Branch.

TABLE 1

| | Flock Placements | | | Type of Submissions | | | |
|---|---|---|---|---|---|---|---|
| Territory | Broiler | Egg-Type | Total | Rep | Lay | 1st Hatch | Total |
| 1 (Leth. Lab) | 21 | - | 21 | 19 | 22 | 21 | 62 |
| 2 (Cal. Lab) | 19 | 6 | 25 | 22 | 21 | 12 | 55 |
| 3 (Edm. Lab) | 32 | - | 32 | 29 | 34 | 30 | 93 |
| 4 (Edm. Lab) | 25 | 23 | 48 | 40 | 59 | 32 | 131 |
| TOTAL | 97 | 29 | 126 | 110 | 136 | 95 | 341 |

It is encouraging to note that salmonella was not isolated from culls first hatch. The branch implemented a new egg sanitation program with the aid of Rodac plate monitoring at the farm level early in the new year. The use of paraformaldehyde flakes in the nest boxes, and the

spraying of eggs with disinfectants immediately after lay were the main emphasis employed by regional poultry specialists with some of their hatching egg producers.

TABLE 2 Percent Chicken Salmonella Isolations

| | Sampling | | | |
|---|---|---|---|---|
| | Replacement | Laying | 1st Hatch | Total |
| No. of submissions | 98 | 135 | 91 | 324 |
| No. of S. positives (+) | 0 | 42 | 0 | 42 |
| % positive -1986 | 0.0 | 29.6 | 0.0 | 13.0 |
| 1985 | 2.8 | 26.3 | 4.0 | 11.6 |
| 1984 | 10.1 | 24.8 | 7.4 | 14.5 |
| 1983 | 6.2 | 20.0 | 2.4 | 10.0 |
| * 1978 | 15.8 | 27.8 | 0.8 | 21.2 |

*start of program

The constant percent isolation of salmonella in environmental samples at time of lay and the consistently poor fluff sample ratings in Alberta hatcheries has caused a joint Federal/Provincial Hatching Egg and Hatchery Hygiene Program to be implemented. At the hatchery and egg producer level increased egg sanitation and management is being encouraged and monitored by the use of Rodac plates.

With the rise of the hatching egg producer chick placement quota in 1987 from 85% to 100%, increased egg sanitation and constant vigilance will be essential by both the producer and regional poultry specialist. Greater emphasis on flock health and egg quality is essential if a high degree of chicken quality is to be maintained.

3. Turkey Health Program

| Terr. | Flock Placements | | Type of Submission | | Hatches | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| | Heavies | Lights | Rep. | Laying | 1 | 2 | 3 | 4 | 5 | |
| 1 | - | - | - | - | - | - | - | - | - | - |
| 2 | 2 | - | - | 1 | - | - | - | - | - | 1 |
| 3 | 1 | - | - | 1 | 1 | 1 | 1 | - | - | 4 |
| 4 | 1 | - | 1 | 4 | 2 | 2 | 2 | 2 | - | 13 |
| TOTAL | 4 | - | 1 | 6 | 3 | 3 | 3 | 2 | - | 18 |

S. heidelberg and S. anatum was isolated in separate litter samples from two different hatching egg premises at time of lay. Throughout the year turkey breeders co-operated in various Mycoplasma testing programs.

4. Hatching Egg Supply Flock Approval

The number of flocks and birds under this program has changed very little in the past couple of years, with the exception of egg-type flock placement.

Chickens (Approved)

| | No. of Flocks | | Average Flock Size | | No. of Birds | |
|---|---|---|---|---|---|---|
| Year | Egg | Broiler | Egg | Broiler | Egg | Broiler |
| 1986 | 48 | 108 | 1,165 | 3,192 | 55,931 | 344,738 |
| 1985 | 32 | 90 | 1,739 | 3,556 | 55,648 | 320,073 |
| 1984 | 29 | 94 | 1,988 | 3,412 | 57,653 | 320,811 |
| 1983 | 27 | 90 | 1,976 | 4,040 | 53,345 | 363,616 |
| 1982 | 26 | 106 | 1,979 | 3,822 | 51,465 | 405,187 |

Turkeys (Approved)

| | | | Average Flock Size | | No. of Birds | |
|---|---|---|---|---|---|---|
| Year | Lights | Heavies | Lights | Heavies | Lights | Heavies |
| 1986 | - | 5 | - | 5,190 | - | 25,949 |
| 1985 | - | 3 | - | 6,150 | - | 18,450 |
| 1984 | - | 4 | - | 4,600 | - | 18,400 |
| 1983 | - | 2 | - | 6,900 | - | 13,800 |
| 1982 | - | 2 | - | 6,225 | - | 12,450 |

General

1. Poultry

During this period three permits from B. C. for a total of 1,500 white leghorn chicks were received. This compares to a total of 29,300 chicks in 1985. Thirteen permits for a total of 22,660 pheasant chicks were submitted.

Thirteen (13) I.L.T. disease outbreaks were diagnosed throughout Alberta by the Regional Veterinary Laboratories. Producers were visited.

As of October 1, 1986, the Ministerial Order Controlling Infectious Laryngotracteitis in poultry was changed to allow hatching eggs from the

infected area of B.C. to be shipped into Alberta if they met certain conditions.

2. Rabbits

Rabbit extension information packages were mailed to 117 enquiries. Three individual calls were made to rabbit raisers for various reasons.

Processing figures indicate approximately 15,537 rabbits, mostly fryers, were slaughtered in Alberta in 1986. This figure indicates an increase of approximately 3,000. Renewed interest in raising rabbits throughout Alberta is increasing.

3. Economic Studies - There is a continual demand for factual and updated information on costs of production.

A fair amount of time was spent with farmers reviewing and assisting with loan applications. Loan applications come from A.D.C., F.C.C., and many of the banks asking for reviews and comments.

During this period the Branch developed cost of production models for shell eggs, broiler chicken, turkeys and broiler breeders. These models are continually updated with current data and cost of production information is used to deal with requests in the area of economics.

A number of poultry farms were sold during the year and staff reviewed loan applications and worked with a number of parties before properties were finally sold.

4. Extension - The Branch's role in extension is to interpret and impart to the industry and to the general public, technical, scientific, economic and general information on poultry production. Throughout the year regional staff members made 842 farm calls, 399 poultry health program calls, handled 308 office extension enquiries, plus 293 calls to

the allied trade. They attended 324 meetings including both industry and Departmental.

Branch staff continue to work with a wide range of producers varying from large commercial farms to acreage holders with a few birds. Staff spoke at meetings varying from the specialized Agriculture Lender's Workshop to the small flock seminars and country fairs.

In February 1986, the Poultry Industry Conference was again held in Red Deer. The Egg Marketing Board, the Hatching Egg Board and the Turkey Marketing Board all held their annual meetings and the Chicken Marketing Board held an information meeting in connection with the Conference. There was a very impressive area of displays set up in conjunction with the Conference. The Poultry Servicemen's Workshop held at Lake Louise in October, again drew good attendance and good comment. Major poultry shows were held at Calgary, Edmonton and Lloydminster.

| | Alberta Agri. | Alberta Agric. | | |
|---|---|---|---|---|
| | | Total Eggs | Reg. Stations | Producer |
| Year | Layer (Average/month) | Dozen (Average/month) | 15 doz. boxes | Av. Wt. Price |
| 1985 | 1,931,600 | 3,177,000 | 2,304,000 | 93.4 |
| 1986 | 1,931,600 | 3,177,000 | 2,330,000 | 91.2 |

Poultry Eviscerated in Registered Stations

Chicken (Kilograms)

| Year | Under 1 Kg | 1-2 Kg | Over 2 Kg | Total |
|---|---|---|---|---|
| 1985 | 1,781,000 | 36,266,000 | 2,340,000 | 40,387,000 |
| 1986 | 2,005,000 | 35,626,000 | 2,224,000 | 39,855,000 |

Turkey (Kilograms)

| Year | Under 5 Kg | 5-8 Kg | Over 8 Kg | Mature | Total |
|---|---|---|---|---|---|
| 1985 | 2,003,000 | 4,063,000 | 3,108,000 | 187,000 | 9,361,000 |
| 1986 | 1,673,000 | 3,827,000 | 3,788,000 | 133,000 | 9,421,000 |

## Chick and Poultry Placement by Type

| | 1985 | 1986 |
|---|---|---|
| *Egg Production | 2,450,000 | 2,373,000 |
| Broiler Chickens | 30,606,000 | 31,566,000 |

| | 1985 | 1986 |
|---|---|---|
| Broiler Turkeys | 422,000 | 361,000 |
| Heavy Turkeys | 1,210,000 | 1,222,000 |

*females only

Ducks, Geese and Pheasants Killed at Alberta Inspected Plants

| | 1985 (Head) | 1986 |
|---|---|---|
| Ducks | 21,000 | 21,000 |
| Geese | 28,000 | 20,000 |
| Pheasants | 12,000 | 24,000 |

## Licensing

| Year | First Receivers | Reg. Egg Grading Stations | Reg. Poultry Stations | Egg Packing Stations | Buy & Sell Rejects | Hatcheries | Custom Killing Stations |
|---|---|---|---|---|---|---|---|
| 1983 | 3 | 18 | 10 | 3 | 31 | 14 | - |
| 1984 | 3 | 20 | 10 | 3 | 26 | 11 | 1 |
| 1985 | 2 | 17 | 9 | 1 | 28 | 13 | 1 |
| 1986 | 2 | 17 | 9 | 2 | 32 | 13 | 3 |

## Farm Cash Receipts $

| | 1985 | 1986 |
|---|---|---|
| Eggs | 46,000,000 | 47,000,000 |
| Poultry | 89,000,000 | 87,000,000 |
| | 135,000,000 | 134,000,000 |

## REGULATORY SERVICES AND FEEDER ASSOCIATIONS BRANCH

This branch was responsible for the administration of certain Acts and their respective Regulations.

This regulatory function provides a protection service for livestock producers in the following areas:

- Brand inspection services
- Brand registration
- Licensing and bonding of livestock dealers and agents
- Licensing of stockyards and stockyard operators
- Provide for protection of land and agricultural products from livestock running at large
- Conducting investigations of fraudulent trade practices in livestock trading
- Check scales and equipment used in making railgrade settlements on cattle

The Feeder Associations Guarantee Act enables members of feeder associations to acquire financing for the growing and finishing of livestock.

BRAND RECORDING SUMMARY

| | Cattle | Horses | Sheep | Total |
|---|---|---|---|---|
| New Brands Issued | 1,360 | 387 | - | 1,747 |
| Transfers | 680 | 87 | 0 | 767 |
| Certified Extracts | 0 | 0 | 0 | 0 |
| Cancelled Brands | 297 | 35 | 0 | 332 |
| Brands Renewed | 9,447 | 1,502 | - | 10,949 |
| Brands Re-issued | 128 | 21 | 0 | 149 |

There were 53,789 brands in good standing as of December 31, 1986.

| | |
|---|---|
| Cattle | 46,056 |
| Horses | 7,721 |
| Sheep | 12 |

A total of 1,842 cattle, 348 horse and one sheep final notices were prepared and mailed in January. In addition, 10,289 cattle, 1,693 horse renewal and 2 sheep renewal notices were received from Computer Services in mid-May, finalized in Stettler and mailed during the later part of June and September. There were also 922 cattle brands and 222 horse brands allowed to expire as of March 31, 1986.

During the year, a total of 54 livestock auction markets and 54 livestock assembly stations were in operation. In addition, 9 markets were licensed permitting them to hold 5 sales or less during the calendar year, one market was licensed permitting them to hold 9 sales or less during the calendar year, and 5 markets were licensed permitting them to hold a one-day sale only.

A total of 2,999,410 head of livestock were brand inspected. This was a decrease of 121,033 head from the previous year.

## Summary of Kinds of Livestock Marketed for Five Year Period

| | 1986 | 1985 | 1984 | 1983 | 1982 |
|---|---|---|---|---|---|
| Steers | 1,046,552 | 1,009,742 | 1,073,745 | 1,064,912 | 1,058,912 |
| Heifers | 805,942 | 816,068 | 829,956 | 826,477 | 811,997 |
| Cows | 328,124 | 403,559 | 410,945 | 359,595 | 371,270 |
| Calves | 499,327 | 547,811 | 527,733 | 476,268 | 489,687 |
| Bulls | 71,475 | 86,102 | 88,441 | 80,932 | 86,912 |
| Yearlings | 197,170 | 215,113 | 209,489 | 196,573 | 223,340 |
| Buffalo | 215 | 140 | 135 | 0 | 0 |
| Mares | 21,074 | 16,999 | 16,318 | 15,279 | 14,647 |
| Geldings | 17,598 | 14,401 | 15,391 | 15,203 | 14,615 |
| Fillies | 3,350 | 2,952 | 2,644 | 2,650 | 2,417 |
| Stallions | 4,315 | 3,652 | 3,985 | 4,138 | 4,159 |
| Colts | 3,994 | 3,648 | 3,169 | 2,488 | 2,448 |
| Mules | 279 | 256 | 202 | 150 | 228 |
| TOTALS | 2,999,410 | 3,120,443 | 3,182,153 | 3,044,665 | 3,080,632 |

## Comparison of Branded Livestock Inspected for Last Five Years

| | 1986 | 1985 | 1984 | 1983 | 1982 |
|---|---|---|---|---|---|
| Branded Livestock | 75.1% | 73.6% | 74.7% | 74.7% | 73.1% |
| Livestock Not Branded | 24.9% | 26.4% | 25.3% | 25.3% | 26.9% |

## Summary of Inspections

| Year | Auction Markets | % | Packing Plants | % | Other Inspection | % |
|---|---|---|---|---|---|---|
| 1986 | 1,785,025 | 59.5 | 874,471 | 29.2 | 339,914 | 11.3 |
| 1985 | 1,885,912 | 60.4 | 962,585 | 30.9 | 271,946 | 8.7 |
| 1984 | 1,920,531 | 60.4 | 993,561 | 31.2 | 268,061 | 8.4 |
| 1983 | 1,802,681 | 59.2 | 1,035,047 | 34.0 | 206,937 | 6.8 |
| 1982 | 1,843,342 | 60.0 | 1,034,254 | 33.6 | 192,623 | 6.4 |

## Permanent Brand Inspectors

| | # of Inspectors | | Lstk. Inspected | | Lstk. Insp. Per Man | |
|---|---|---|---|---|---|---|
| Location | 1986 | 1985 | 1986 | 1985 | 1986 | 1985 |
| Brooks | 2.80 | 2.90 | 231,339 | 236,546 | 82,621 | 81,567 |
| Calgary | 5.84 | 6.50 | 349,465 | 345,457 | 59,839 | 53,147 |
| Clyde | 2.36 | 2.42 | 156,852 | 172,741 | 66,462 | 71,380 |
| Edmonton | 8.00 | 8.00 | 305,721 | 343,184 | 38,215 | 42,898 |
| Grande Prairie | 2.14 | 2.13 | 55,159 | 58,972 | 25,775 | 27,686 |
| Hardisty | 1.43 | 1.43 | 103,660 | 98,147 | 72,489 | 68,634 |
| High River | 1.17 | 1.17 | 83,004 | | 70,943 | |
| Lethbridge | 6.55 | 6.99 | 403,162 | 470,702 | 61,551 | 67,339 |
| Lloydminster | 1.00 | 2.00 | 93,118 | 91,720 | 93,118 | 45,860 |
| Medicine Hat | 1.50 | 1.39 | 69,597 | 72,315 | 46,398 | 52,025 |
| Ponoka | 2.79 | 3.25 | 176,862 | 185,955 | 63,391 | 57,216 |
| Red Deer | 5.15 | 4.90 | 322,898 | 320,119 | 62,698 | 65,330 |
| St. Paul | 1.17 | 1.17 | 34,155 | 32,044 | 29,192 | 27,388 |
| Strathmore | 1.00 | 1.00 | 89,992 | 86,079 | 89,992 | 86,079 |

During 1986, our brand inspection staff questioned 136,156 head of livestock for bills of sale and held the proceeds on another 29,422 head pending proof of ownership. The proceeds on 7,650 head were released to others rather than the contributor.

Investigations in 1986 resulted in requests for computer retrievals on brand information and as a result, 254 names and 1,805 brands were pulled.

Cattle Exports - 1986

| Month | B.C. | Sask. | Man. | Ont. | Que. | USA | Others | Total |
|---|---|---|---|---|---|---|---|---|
| Jan. | 1,588 | 4,486 | 1,451 | 11,070 | 1,425 | 15,414 | 66 | 35,500 |
| Feb. | 965 | 3,109 | 429 | 12,569 | 307 | 14,236 | | 31,615 |
| Mar. | 1,442 | 4,993 | 174 | 16,476 | 509 | 13,373 | 5 | 36,972 |
| Apr. | 2,303 | 7,878 | 711 | 10,694 | 458 | 8,566 | 21 | 30,631 |
| May | 4,705 | 6,559 | 1,734 | 8,672 | 139 | 10,485 | 13 | 32,307 |
| June | 2,118 | 4,277 | 447 | 6,097 | 58 | 16,282 | 25 | 29,304 |
| July | 2,436 | 3,302 | 315 | 5,042 | 92 | 11,025 | 40 | 22,252 |
| Aug. | 3,906 | 2,864 | 581 | 3,993 | 240 | 13,398 | 2 | 24,984 |
| Sept. | 2,497 | 3,737 | 1,497 | 3,273 | 615 | 6,905 | 20 | 18,544 |
| Oct. | 1,475 | 4,501 | 264 | 12,676 | 507 | 3,074 | 2 | 22,499 |
| Nov. | 3,085 | 7,216 | 501 | 34,634 | 1,014 | 1,823 | 4 | 48,277 |
| Dec. | 1,427 | 5,124 | 1,098 | 7,032 | 716 | 2,905 | 6 | 18,308 |
| 1986 | 27,947 | 58,046 | 9,202 | 132,228 | 6,080 | 117,486 | 204 | 351,193 |
| 1985 | 20,888 | 53,462 | 8,231 | 163,546 | 7,065 | 117,019 | 904 | 371,115 |

During 1986, 471 missing or stolen cattle reports were received. Following is a summary of these reports for the last four years:

Missing or Stolen Cattle Reports

| | 1986 | 1985 | 1984 | 1983 |
|---|---|---|---|---|
| Total Number of Report | 471 | 496 | 498 | 492 |
| Number of Head Reported | | | | |
| Missing or Stolen | 1,079 | 1,471 | 1,303 | 1,275 |
| Number Found | 355 | 329 | 373 | 236 |
| Number Not Found | 724 | 1,142 | 930 | 1,039 |

Under the Stray Animals Act, 1,106 head of livestock were impounded during the year. A total of 958 head were returned to the rightful owners after they paid the costs of capture, transportation and maintenance. The balance of 148 head were sold by public auction and the net proceeds after costs were deposited into general revenue.

There were 930 livestock dealers and agents licensed during 1986 compared to 935 the previous year. Three claims were received against two livestock dealers' bonds.

Five branding demonstrations were conducted in various parts of the province with good local participation.

## Feeder Associations in Alberta

## 1985-86

During the year, 38 feeder associations operated under the Feeder Associations Guarantee Act.

A total of $64,278,780.70 worth of credit was used to purchase 135,352 cattle and 3,903 sheep during the fiscal year. The amount outstanding as of August 31, 1986 was $29,854,330.61.

Corresponding figures from one year ago are 98,287 cattle and 5,255 sheep. The amount outstanding as of August 31, 1985 was $26,298,580.63.

In the fall of 1985, (Rockyford Feeders Association Co-op Ltd.) and in the spring of 1986, (Brooks & District Feeders Co-operative Ltd.) approval was granted by Order-in-Council for these two feeder associations to commence operations.

Knee Hill Valley East Feeder Association had, in 1985, ceased active operation, and the directors and members dissolved the association during the fiscal year.

The Innisfail Feeders' Association Limited, which had suspended activity due to the depletion of the assurance account brought on by an outstanding loan in 1985, recuperated the outstanding loan, replenished the assurance account and recommenced operation.

The Feeder Associations of Alberta Ltd. at the 12th annual meeting passed two resolutions which they want to have amended in the Feeder Association Guarantee Regulation. These are in summary:

1. that "... the bond level be increased from $10,000 to $50,000 for each of the signing authorities of all member association".

2. that "... the board lobby the government to have loan limits of $30,000 for the first year, and $75,000 in subsequent years for qualified feeders, left to the decision of the Board of Directors."

1985/86 Feeder Association Year End Report

| Association | Cattle | Sheep | Total Credit |
|---|---|---|---|
| Acme | 2,216 | | 1,038,335.66 |
| Andrew | 860 | | 394,271.31 |
| Barrhead | 6585 | | 3,432,829.58 |
| Bashaw | 1,257 | | 534,134.72 |
| Battle River | 7,674 | | 3,820,601.31 |
| Big Valley | 2,295 | | 1,044,256.14 |
| Blindman | 14,722 | | 7,056,636.83 |
| Bonnyville | 1,331 | | 610,909.76 |
| Bowden | 6,134 | | 2,968,681.12 |
| Brooks | 482 | | 259,501.66 |
| Carstairs | 2,190 | | 1,020,757.67 |
| Colinton | 1,370 | | 590,342.23 |
| Delburne | 1,595 | | 831,131.31 |
| East Olds | 5,575 | | 2,595,681.58 |
| Flagstaff | 5,525 | | 2,836,688.05 |
| Fort Macleod | 907 | 233 | 410,521.92 |

| Association | Cattle | Sheep | Total Credit |
|---|---|---|---|
| Glenwood | 2,346 | | 1,084,982.72 |
| Grande Prairie | 518 | | 218,509.20 |
| Great West | 845 | | 392,265.98 |
| Hardisty | 8,147 | | 3,749,045.30 |
| Innisfail | 654 | | 363,027.84 |
| Lakeland | 1,634 | | 702,885.23 |
| Little Bow | 4,571 | | 2,039,955.96 |
| Mannville | 1,806 | | 789,688.01 |
| Marwayne | 4,764 | | 2,466,752.19 |
| McLeod River | 548 | | 297,143.23 |
| North Peace | 3,003 | | 1,264,905.10 |
| Paddle River | 2,463 | | 1,157,477.66 |
| Parkland Stavely | 3,149 | | 1,451,073.83 |
| Pincher Creek | 2,094 | | 912,556.92 |
| Ponoka | 6,157 | | 2,946,320.22 |
| Prairie River | 1,715 | | 699,184.51 |
| Raven | 4,401 | | 2,058,274.08 |
| Red Deer | 14,456 | 3,670 | 7,280,407.58 |
| Rockyford | 623 | | 311,604.50 |
| South Eastern | 326 | | 110,768.20 |
| St. Paul | 2,111 | | 938,207.86 |
| Westlock | 8,303 | | 3,598,473.70 |
| Total 85-86 | 135,352 | 3,903 | 64,278,780.70 |
| Total 84-85 | 98,287 | 5,255 | 43,699,555.76 |

## SUMMARY OF FEEDER ASSOCIATION OPERATIONS

### 1981-1986

| Feeding Season | No. of Assoc. | Cattle Cattle | Sheep Sheep | Amount of Credit |
|---|---|---|---|---|
| 1981-82 | 38 | 68,710 | 4,080 | 27,761,209 |
| 1982-83 | 33 | 75,917 | 5,895 | 32,585,619 |
| 1983-84 | 37 | 91,497 | 4,517 | 39,626,822 |
| 1984-85 | 36 | 98,287 | 5,255 | 43,699,556 |
| 1985-86 | 38 | 135,352 | 3,903 | 64,278,781 |

### Staff Changes

- Herb Lock was seconded to the Alberta Feed Grain Market Adjustment Program in August 1985. His duties as Supervisor of Feeder Associations were assumed by Ron Lane.
- Jan Harvey, Office Manager in the Stettler office resigned and her duties were assumed by Zena Kalenith.
- Gerry Schumaker, Clerk III in the Calgary Brand office was terminated due to position abolishment.
- Ken Spiller, head of the branch was promoted to Director of Animal Industry Division and his duties were assumed on an acting basis by C.W. Herbert.

# ALBERTA FEED GRAIN MARKET ADJUSTMENT PROGRAM

The purpose of this program, initiated September 1, 1985, was to offset the distortion in feed grain prices in Alberta created by the payment of the federal Crow Benefit to the railways. The average provincial distortion for the period was estimated at $21.00 per tonne.

The program had two options: 1. Certificate Option

2. Farm-Fed Option

Livestock producers (feed users) registered on either option or both depending on their farming operation. Under the certificate option, feed users were provided with certificates, valued at $21.00 per tonne, which they used when purchasing eligible feed grains. The feed seller, if a farmer who grew the grain, presented the certificates to Alberta Agriculture for reimbursement. Feed grain merchants also participated in the program, but were not permitted, except in certain circumstances, to present certificates to Alberta Agriculture for reimbursement.

Under the farm-fed option, feed users who feed their own grain to livestock, completed claim forms and submitted them to Alberta Agriculture to obtain the $21.00 benefit.

## REGISTRATIONS

### A. Feed Grain Users

A total of 25,115 feed users were registered on the program as at March 31, 1987. This was an increase of 3,108 from the year previous. The number of feed users registered under the

certificate, farm-fed, and those registered under both were: 6,160, 10,717, and 8,238, respectively, as at March 31, 1987. The following table compares feed user 1987 registrations with the previous year:

| Option | 1986 | 1987 |
|---|---|---|
| | (as at March 31) | |
| Certificate | 5,953 | 6,160 |
| Farm-Fed | 9,960 | 10,717 |
| Both | 6,094 | 8,238 |
| Total | 22,007 | 25,115 |

Sixty-five per cent of the feed users, as at March 31, 1987, registered for 100 tonnes of eligible grain or less, 17.3 per cent registered for from 101 to 200 tonnes, 10 per cent for 210 to 400 tonnes, and 7.7 per cent for greater than 400 tonnes of eligible feed grains.

B. Feed Grain Merchants

Thirty-six merchants registered on the program during the 1986/87 fiscal year, bringing a total of 219 merchants registered as at March 31, 1987. Of these, a total of 210 sold grain. Feed grain merchants registered were located from Vancouver to Montreal, with the majority in Alberta, Saskatchewan and Manitoba. The distribution of merchants by type was as follows:

| Type of Merchant | Number |
|---|---|
| Grain dealers | 104 |
| Feedmills | 67 |
| Elevator Companies | 11 |
| Truckers | 19 |
| Total | 201 |

The majority of merchants (67 per cent) sold 5,000 tonnes of grain or less during the 1986/87 fiscal year. A complete breakdown of the tonnages sold by active merchants was as follows:

| Range of Eligible Grain Sold (Tonnes) | No. of Merchants |
|---|---|
| < 5,000 | 134 |
| 5,001 - 10,000 | 20 |
| 20,001 - 40,000 | 26 |
| 40,001 - 60,000 | 15 |
| 60,001 - 80,000 | 1 |
| > 80,000 | 4 |

PAYMENTS

During the 1986/87 fiscal year, $73,619,446 were paid out under the program, bringing the total payments since September 1, 1985 to $103,483,784. Payments under the farm-fed and certificate option during the year were $27,020,807 and $46,598,641, respectively. This brings the total payments for the two options since September 1, 1985 to $30,505,041 and $72,978,743, respectively.

Cheques issued under the certificate option to feed grain producers by district offices and headquarters for the 1986/87 fiscal year totalled 52,964. The number of cheques issued during the period September 1, 1985 to March 31, 1986 was 83,963. Graphs I and II show the distribution of cheques issued and the dollar value these represent by month for the year. The distributions for the 1985/86 fiscal year are included for comparison.

Claims under the farm-fed option to feed users during the year totalled 19,529, bringing the total since September 1, 1985 to 22,735. The distribution of the number of payments and the dollar value represented are shown in Graphs III and IV, respectively.

## FARM INSPECTIONS

During the year, farm inspections were completed on 2,896 feed users (11.5 per cent). Since September 1, 1985, 7,003 (27.9 per cent) were inspected. Serious irregularities, which contravened program conditions, were detected in eight instances. These feed users were disqualified from future participation in the program.

## MERCHANT INSPECTIONS

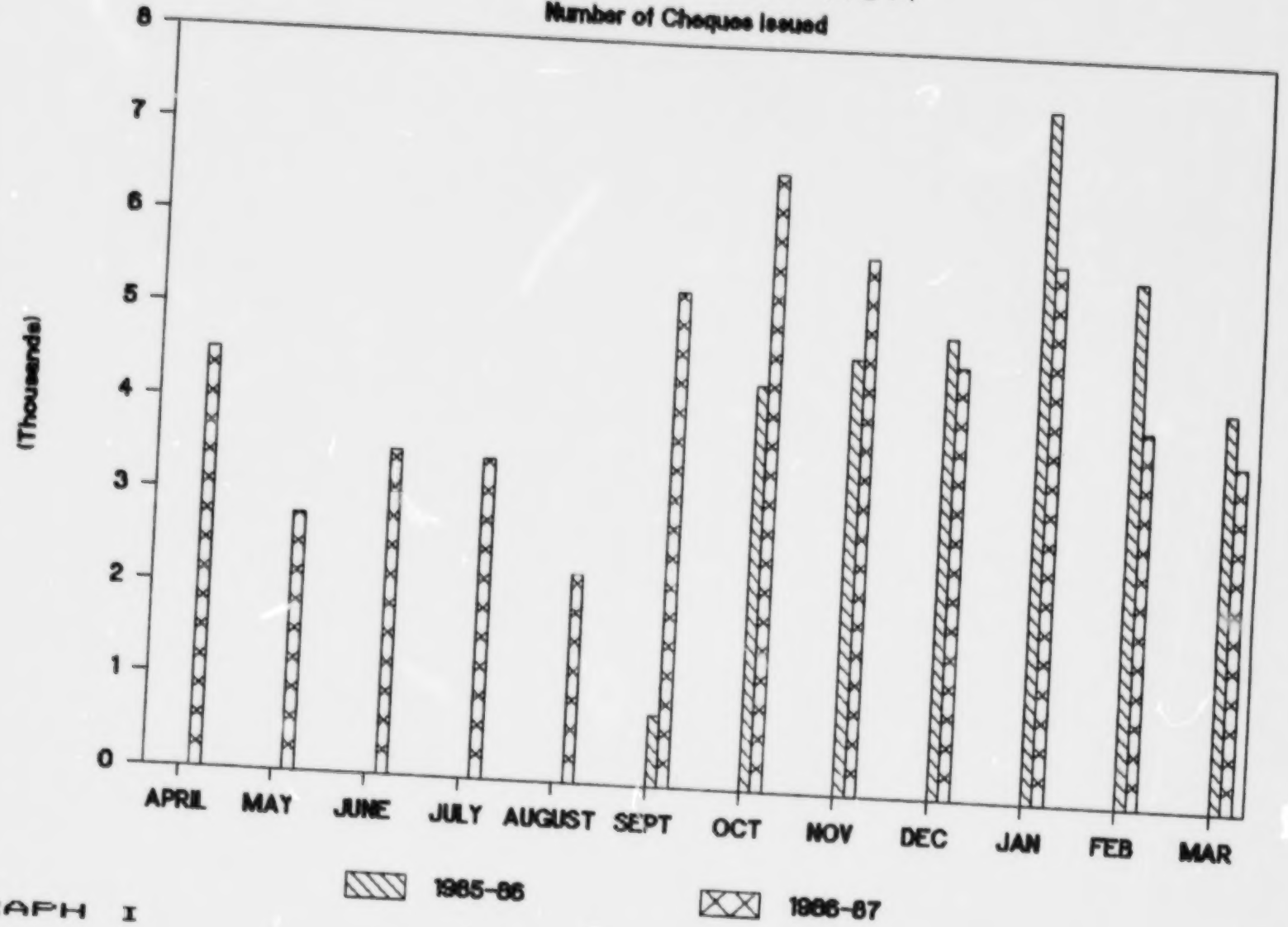
Fourteen feed grain merchants (6 per cent) were inspected during the year. Comparison on a random basis of B certificates issued, and A and B certificates received with original documents and ledger entries were conducted. No serious irregularities were found.

EVALUATION

The program contributed to the long term objectives of Alberta Agriculture by removing a major constraint on livestock production. This result was an improvement to the income of livestock producers and an enhancement to the related grain and processing industries. The program had the following results:

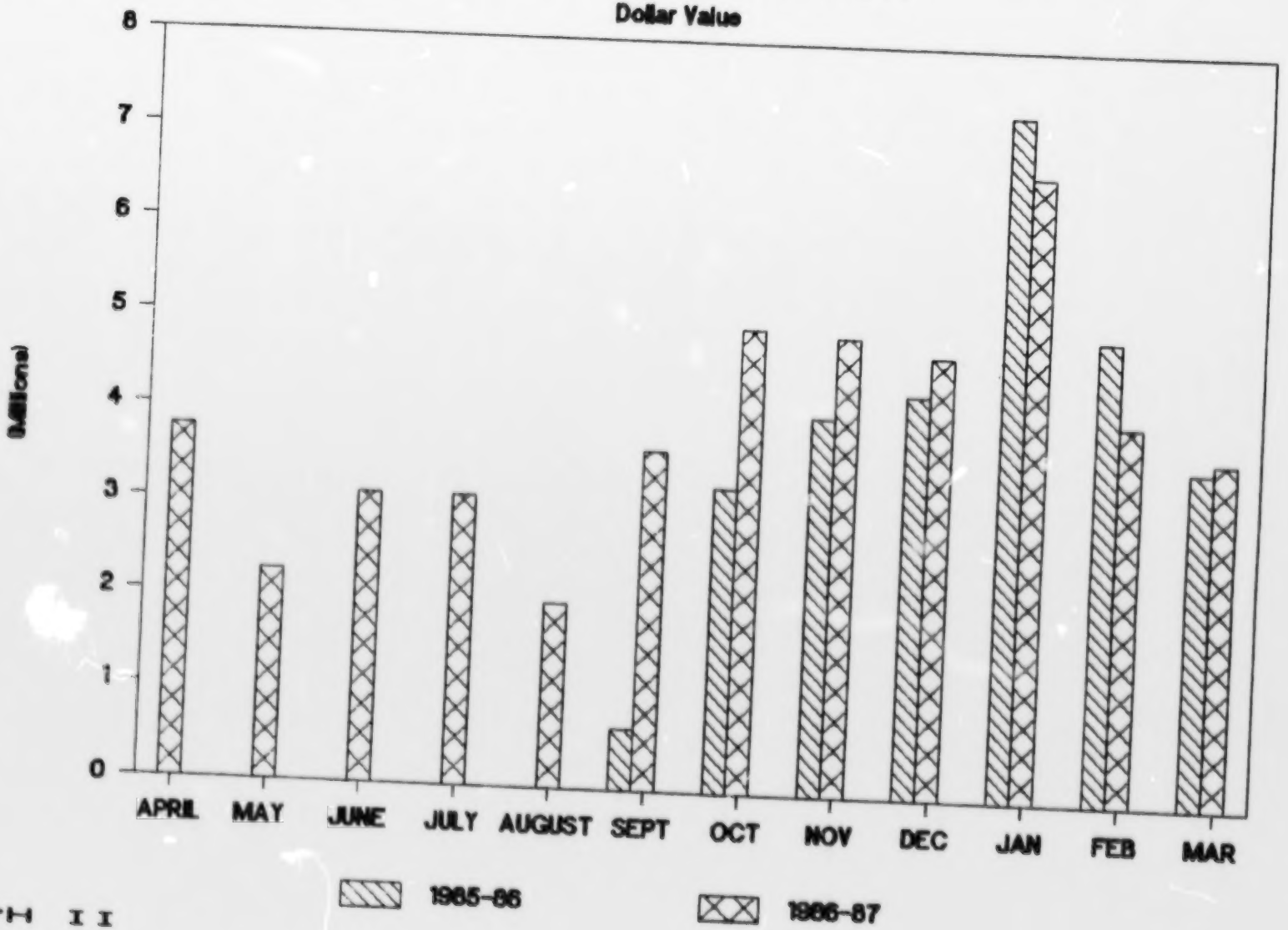
1. It increased the price of heavy feeder steers (over 800 lbs.) by approximately $4.50 per hundredweight. The price of weaner pigs increased by $3.75 per hundredweight.
2. It made it possible for Alberta feeders to raise slaughter animals to heavier weights, enabling them to ship into the U.S. market.
3. It reduced feed costs (e.g. swine, broilers, and beef cattle) by $6.35, $2.74, and $12.73 per 100 kg of gain, respectively.
4. It allowed Alberta producers to regain a production advantage relative to other provinces.
5. It renewed interest of major companies in meat processing in Alberta.

# CERTIFICATE OPTION



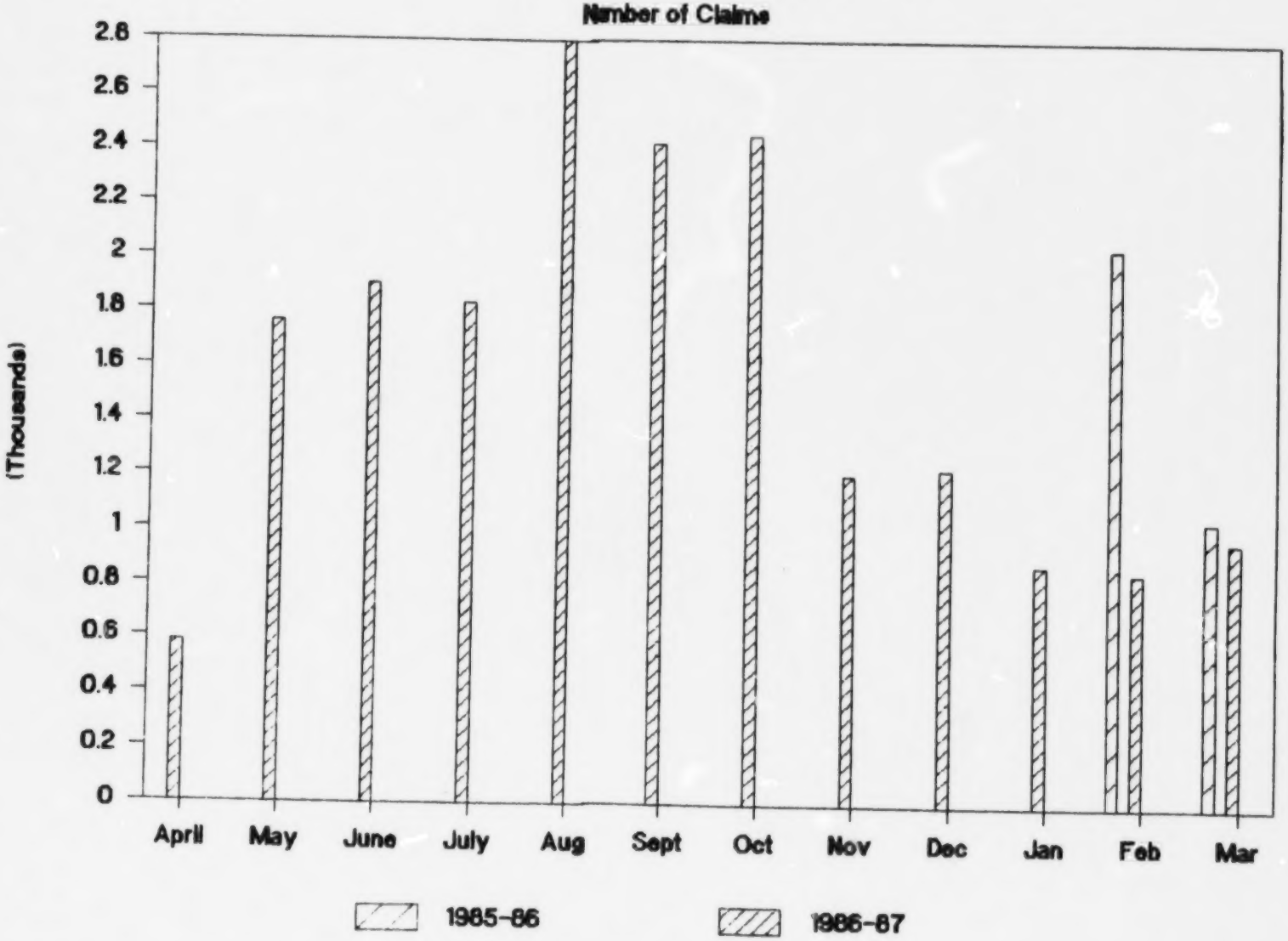

GRAPH I

# CERTIFICATE OPTION



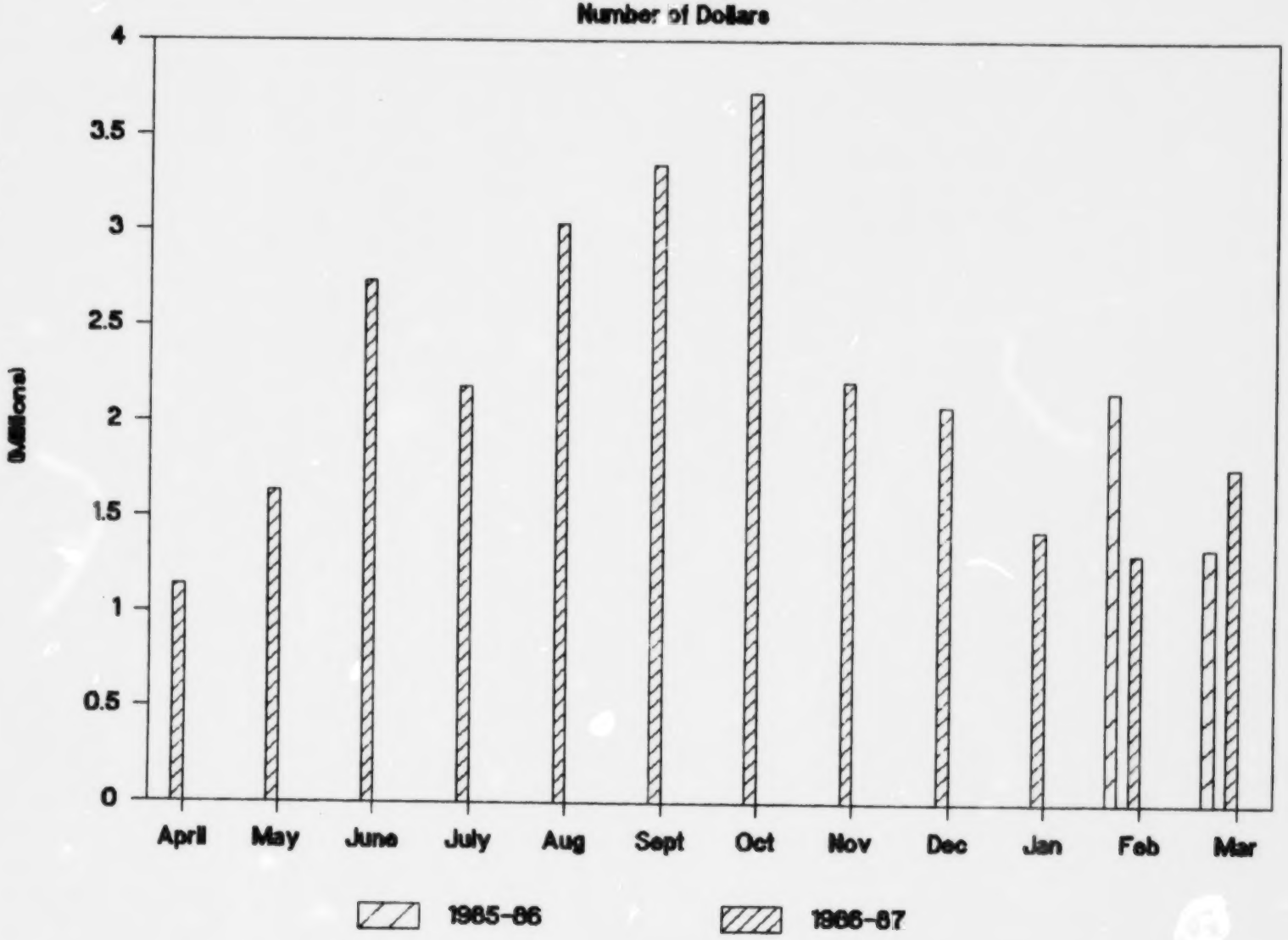

GRAPH II

# FARM FED PAYMENTS




GRAPH III

# FARM FED PAYMENTS




GRAPH IV